

At San Francisco State he is credited with organizing the Black Student Union—the key organization in the months of violent student protest there. Under his direction the Student Union also began a tutorial project in San Francisco high schools.

Last week Garrett said he had helped start Black Student Unions throughout the West Coast and has been a consultant to students and college administrations nation-wide on the development of black studies curricula.

"I get four offers a week for jobs; three offers a week for traveling," he said.

During the mid-60s he worked for the Student Non-Violent Coordinating Committee (SNCC) in its voter registration project in Mississippi.

He was accepted for a graduate program at Harvard last fall. But he declined the offer, in order to teach at Federal City.

One colleague at the college, skeptical of the black studies program, described Garrett nonetheless as "brilliant, shattering" and, coming down hard on each syllable, "politically astute."

PROGRAMS VARY WIDELY

Black studies had been the ever-recurring cry and demand of student protests across the country this school year. Colleges and universities in many cases have responded hastily with programs that differ sharply.

At Harvard, before any significant student demonstration, a scholarly program was planned bringing history, sociology, economics, and other disciplines to focus on the American Negro.

At the same time Harvard announced it would expand an existing African studies program. The two departments would not merge.

At San Francisco State College, a different kind of program was envisioned. African and Afro-American subjects would be in the same black studies department, but the courses themselves would be a supplement to regular study.

DRASTIC DEPARTURE

At Federal City College, the black studies program departs drastically from existing academic traditions.

Conventional college courses are imbued with white values, said Couch, head of the humanities division—the largest instructional segment in the school.

"The British Empire in rhetoric becomes an honorific term," he said. Actually, he said, it meant in large measure going into Africa and Asia and coercing people into slavery.

But the scope of the black studies program extends beyond historical perspective and is pointedly aimed at structuring attitudes and technical skills for the nascent "black nation."

A position paper prepared by the black studies program states:

"Whether the Nation is to be a collection of enclaves or a geographical location, existing within or without the United States, is a question we must ultimately answer as a people. Yet, the Black Education Program recognizes the necessity for Black People to be prepared to face and decide that question in the foreseeable future."

CURRICULUM SET

The first two years would be spent inculcating the revolutionary instinct and ideology, according to the curriculum. Courses in writing and composition would be stressed as well as a historical, social and cultural survey of Negroes in Africa, the Caribbean and the Americas.

The scientific segment of the curriculum would examine the principles of math, biological sciences and discuss their "practical application . . . to the social life of the black community."

Black physical education courses to "strengthen the body and discipline the

mind" would include instruction in karate, stick fighting, riflery, gymnastics and the African hunt.

The curriculum described it as a "total immersion" program.

Students enrolled would be virtually unable to take other courses at Federal City. Correspondingly, students not enrolled could take only a few specially designated black studies courses.

Specific problem-study outlined for the final two years include "tropical disease in Africa"; the development of a math curriculum for African secondary schools; the development of an independence movement in Kenya, Mississippi or Washington; and, in the cultural area, the question, "who is our audience and how we reach them."

In the midst of confusion and clashing struggles among faculty and administrators most of the students at Federal City—whose ages average 21—have dug in to studies that they hope will earn a degree leading to a good job.

About 5000 applications have been filed for next year. There are still an additional 1500 applications remaining in the lottery from which students were selected this year.

Everett Watkins, a freshman, is taking one black studies and two science courses this quarter.

He said last week that he had found all of them interesting, but would ultimately major in engineering and not black studies.

The proposed engineering curriculum "looks kind of rugged," he said, and he doubted that he would have the time to take many more black studies courses.

ABM

ANTIBALLISTIC MISSILES

SPEECH OF

HON. WILLIAM F. RYAN

OF NEW YORK

IN THE HOUSE OF REPRESENTATIVES

Wednesday, February 26, 1969

Mr. RYAN. Mr. Speaker, during the 90th Congress I was anxious to receive the assistance of scientists familiar with the military and strategic implications of an anti-ballistic-missile system. Accordingly, in November 1967 I wrote letters to several distinguished scientists asking them to comment on the wisdom of deploying an antiballistic system. My colleague from Minnesota (Mr. FRASER) also joined in these requests.

The answers received were most informative and useful. Since this issue has again come before the House during this session of Congress, I would like to insert these letters, along with the articles to which several of the letters referred. I commend the views expressed in these letters to my colleagues and urge them to heed the advice of these experts as they consider this crucial issue.

I include at this point in the Record letters from Prof. Jerome B. Wiesner, former Science adviser to President Kennedy and President Johnson, Prof. Victor F. Weisskopf, Department of Physics, Massachusetts Institute of Technology; Dr. Wolfgang K. H. Panofsky, director, Stanford University Linear Accelerator Center; Dr. Leonard S. Rodberg, Institute for Policy Studies, Washington, D.C.; and Prof. Betty Goetz Lall, New York State School of Industrial and Labor Relations, Cornell University:

MASSACHUSETTS INSTITUTE

OF TECHNOLOGY,

Cambridge, Mass., November 28, 1967.

Hon. WILLIAM F. RYAN,
Hon. DONALD M. FRASER,
Members of Congress,
House of Representatives,
Washington, D.C.

DEAR SIR: I am writing in response to your recent letter asking for my thoughts about the antiballistic missile system deployment. I have just recently published a statement in Look magazine which sets forth my strong feelings about the matter. I believe that we are embarking on a course of action which will lead to a new cycle in the arms race, one which will ultimately result in a new level of deterrents and which would potentially be more destructive than the situation with which we are now living. I am enclosing two copies of that piece for your use. I wonder whether you have seen the collection of papers on the antiballistic missile problem that were recently published by the Bulletin of Atomic Scientists. If not, I would suggest that you look at them for these were interesting papers relating to the ABM problem.

A number of persons in the United States would, I'm sure, be willing to help you understand the ABM issue. Professor Herbert York, who is at the La Jolla campus of the University of California, has spent a good deal of time on these matters, and would, I'm sure, be pleased to have an opportunity to talk to you. The same would apply to Professor Jack Ruina on the M.I.T. faculty, Professor George Kistiakowsky at Harvard University, Professor Paul Doty at Harvard, Professor Leonard Rodberg, Physics Department, the University of Maryland, and Professor Frank Long at Cornell University. I'm sure a short note from you would solicit their views, and I'm also certain that any one of them would be willing to participate in more formal discussions with you.

Sincerely yours,

JEROME B. WIESNER.

THE CASE AGAINST AN ANTI-BALLISTIC-MISSILE SYSTEM

(By Dr. Jerome B. Wiesner)

When China exploded a hydrogen bomb, waves of concern spread around the world. Renewed calls were raised in the United States for a defense that would protect us from Chinese nuclear ballistic missiles. These calls have now been heeded by President Johnson. Scientists agree that neither the United States nor the Soviet Union can protect itself completely from a nuclear attack by the other. But as long as Communist China's primitive missile force is very small, some protection can be achieved—and this is what the President has decided to buy. Because he couldn't persuade the Russians to consider limitations on missile defenses, the President has now ordered the building of a "thin" defensive system to protect us from the Chinese. The logic of the President's decision seems mighty tortured.

The word in Washington is that President Johnson was forced to bend under the pressure of the military, congressional and industrial sponsors of the antiballistic-missile system. Enormous pressure certainly existed, but such pressure on a President to build a missile-defense system is not new. Both President Eisenhower and President Kennedy were exposed to it. One of the most difficult decisions President Kennedy had to make concerned the Nike Zeus missile-defense system. The pressures on him were tremendous, but after long, careful study, he decided, on technical grounds, not to build the Nike-Zeus. Today, we know that to have built that system would have wasted between \$20 and \$30 billion. It would have been already obsolete. I am certain that the system we are

establish a new Federal City College in Washington, D.C., to provide quality education to our many youth who want to go to school in our Nation's Capital.

The university is halfway through its first year in existence and already we are told it is establishing a black studies program working toward an emerging and "wholly separate black nation."

This can be but the same black secessionist movement being promoted in absentia by Robert Williams of RAM, the Black Panthers, and the New Africa.

The people at the Federal City College must be naive if they feel the taxpayers of the United States are going to continue to fund a university specializing in teaching the catechism of revolution, confiscation of lands, and destruction of culture of the United States, and as a base of operation for a bunch of loudmouthed anarchists.

Mr. Speaker, the report from the college indicates it will ask for a \$11.4 million appropriation this year. Until I have written assurance that the college is going to be used as an educational facility, I will never cast my people's vote for any such funding.

I include the column by Herbert H. Denton from the March 6 Washington Post:

BLACK STUDIES ISSUE SPLITS FEDERAL CITY COLLEGE

Federal City College, more than halfway through its first year, is bitterly divided over a black-studies program explicitly working toward an emerging—and wholly separate—"black nation."

The emergence of this political issue has raised serious questions about the future development of Washington's only public college.

The immediate issue is standards for hiring the 174 new faculty now being sought for next fall.

Separatists who have won ascendancy in the faculty hierarchy are pressing the college administration to discount traditional academic credentials, like doctoral degrees, and give weight to experience with black political and social action organizations.

Last year, black studies were planned as merely a group of courses in the humanities and social sciences divisions.

Next year, after a series of bruising internal political fights over recent months, black studies will be the second largest division of instruction at Federal City and will approach the status of being a separate college.

Courses will include not only black history and black English but also black physical education and black mathematics.

The proposed curriculum would devote the first two years to the "decolonization of the mind," described as the systematic eradication of "white values" held by entering students.

The latter two—"or three"—years will concentrate on training an elite for what is believed to be the coming "black nation," including Negroes world-wide.

But even before the program has got under way, its planners have attempted to export its message of "revolution" and "nation building."

James Garrett, head of the City College's black studies program, lectured students at the University of Oregon on techniques of making fire-bombs and hand grenades, on the anniversary of the assassination of Malcolm X this year. A busload of students from Federal City went to assist protesting stu-

dents at Cheyney State College in Pennsylvania last fall.

RECRUITING CRITICIZED

The college has brought in many instructors of "dubious quality and competence" and is recruiting more, said Margaret Just Butcher, a former professor at Howard, and now professor at Federal City College.

"I'm a little tired of this nonsense of black, black, black," said Mrs. Butcher, a Negro.

Other faculty members expressed these views:

William Couch, chairman of the humanities division and also a Negro: "Isn't it conceivable that (activists) would have something to offer that Ph.D's would not?"

One senior professor who preferred to remain anonymous: The college is in danger of becoming a "glorified high school."

Joseph Brent, the faculty chairman who is white but sides with the separatists: The "genteel tradition of scholarship" might not be effective at predominantly black Federal City. "Street education has produced a very sophisticated individual even if he can't write well or add."

"STUDENTS" NOT CONCERNED

Separatism has been almost exclusively a faculty issue.

Surveys of the greater than 90 per cent black student body last fall revealed that most were interested in pursuing careers in business, teaching and science-related fields. Business and science courses are always the first to fill up at quarterly registrations.

But the black studies department will get 40 out of the 172 new faculty slots open for next year for a total of 54 teaching positions.

By contrast there will be 51 instructors in the natural sciences and only 41 in the professional division, which includes teacher training, and business administration.

After a year of intramural battle within the college faculty, the separatist influence has prevailed in other divisions, humanities in particular. (The current ratio of white to black teachers is roughly 50-50).

Some young Negroes without doctorate degrees have been made department heads while senior, more traditional-minded, faculty have, in several instances, been relegated to positions of little influence or control.

Kenneth Lynn, former professor at Harvard and the college's most well-known academician has said he is "seriously considering" leaving.

It is also widely reported that both the college president and the provost, Frank Farner and David Dickson, are seeking positions elsewhere.

APPEAL TO FARNER

Some faculty members in the losing faction have appealed without success all school year to Farner, the president, and Charles Horsky, Washington lawyer and chairman of the board of trustees, to resolve the situation.

Farner, who is white, was visibly distressed last week by the developments at the college. He had not realized that the separatist impulse would be so strong and domineering, he said.

"I have not made any policy decisions on my own. That's probably the wrong style of administration for this situation," he said.

Horsky said that he had been aware all year that there was "argument, debate," but had not taken it as a "sign of anything going wrong."

"We assumed that was a part of a normal university atmosphere. I think we are beginning to be aware that there is a little bit more to it than that," he said.

But the issue soon will be out of the control of Farner and the trustees. This Spring it will come to the congressional appropria-

tions committees, with highly inflammatory racial overtones.

MORE FUNDS SOUGHT

The college will ask for \$11.4 million, about \$7 million more than last year, to double its current enrollment of about 4000.

Problems at the college have been complicated by its hasty organization last year and the rapid growth planned. By 1975, the school plans to have in excess of 17,000 students.

The school still is finding it difficult just getting organized. Although negotiations are under way, no buildings have been acquired to accommodate the increased enrollment next school year. Fewer than 15 per cent of new faculty needed for the fall had been signed on at the end of last week.

The school library was one of the last facilities to be completed in the remodeling of the school's temporary building at 2d and D Streets NW.

A truck load of books arrives each day and the library still is not in full operation. For one reason or another, it is not widely used by students.

Of the 30,000 books in the library now, only about 60 to 75 circulate daily.

FACULTY ABSENTEEISM

And throughout this academic year there has been a problem of attendance at classes by teachers.

Joseph L. Brent, chairman of the faculty, said he was aware of the teacher problem but had not yet made an investigation to determine its extent.

But there are a "mixed-bag of non-attend-ers," he said. "Patterns appear to be individual rather than social," he added.

David Dickson, the college provost, said he knew that there were "goof-offs" on the faculty. "The students are very outraged. . . . They will be the lever to detect this sloppiness and also to cure it," he said.

Dickson, who is Negro, told a national convention of educators last fall that the college was wracked by "racial tensions . . . suspicions . . . and polarization."

A "well-disciplined and intense cadre of white radicals and black separatists (who) neglect academic principles for revolutionary ends" had almost taken over the 100-member faculty, he said then.

His assessment of the state of the college last week was, if anything, more dire. The college had become a "permissive democracy . . . exploited by the politically astute," he said.

HOPES FOR "SOBRIETY"

He held hope, nonetheless, that an element of "academic sobriety" might be brought to the black studies program with the addition of older academically qualified professors.

Recruitment for the black studies program, however, is almost completely in the hands of James Garrett, 26.

He received his bachelor's degree last spring from San Francisco State College and now is acting director of the Federal City College's black studies program. ("I'm director but the administration calls me acting director," Garrett puts it.)

When hired last year, "he (Garrett) was introduced to us as a teacher of creative writing," Dickson remarked, with a note of sarcasm.

SHUNS AFRICAN DRESS

Lean and soft-spoken in conversation, Garrett shuns the hair-do and native dress affected by many black militants.

"Blackness must change its emphasis from that which is seen, such as Afros and Dashikis, to that which is necessary, such as living and working with Black People to achieve our goal of liberation," states the position paper outlining his program.

March 6, 1969

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now planning will be regarded as ineffective before it is installed.

Secretary of Defense McNamara estimates that the United States could build an ABM system (for between \$3 and \$6 billion) that would provide a reasonably effective defense against Chinese ballistic missiles—for 10 to 15 years. But he concedes that such a system would do us little good against an attack by the Russians. Even if the thin ABM system is as effective as the Secretary of Defense says—and I strongly question this—should we take the portentous step of deploying an ABM system for protection against Red China? I think we should not.

In his long statement announcing the President's decision to build an anti-Chinese ABM system, Secretary McNamara concludes that the arguments marginally support its construction. This is obviously a matter of judgment. I think the arguments are overwhelmingly against building it. In fact, I believe that this decision could be as wrong and have as serious domestic and international consequences as the disastrous conclusion six years ago that a few military advisers and some weapons would lead to an early victory for South Vietnam's forces.

In the late 1950's, the United States first began to examine the problem of defense against ballistic missiles. At that time, the only useful concept involved low-altitude interceptor missiles armed with nuclear weapons. The idea was that radars would track an incoming enemy missile and guide our "antimissile missile" near enough so that the nuclear warhead, exploded at the right time, would destroy the enemy missile. One defensive rocket would be fired against each incoming object. But an enemy could easily confuse the radars—by including along with the real nuclear warheads high-altitude "decoys," such as lightweight metallic balloons. Since decoys break up or slow down when they hit the earth's atmosphere, we hoped that by waiting, we could pick out the real warheads and launch a defensive attack. The antimissile missiles would have to be placed near each city to be defended, and the tremendous heat and blast caused by the explosion of the defensive warheads, low over the cities, could inflict terrible civilian casualties. It was possible that such a defensive system would do as much damage as enemy warheads. The Nike-Zeus plans, therefore, included a major fallout-shelter program.

During the past two years, it has appeared feasible to build high-altitude defensive missiles for use against small-scale attacks. The nuclear warheads on the high-altitude missiles would be exploded far out in space—in an attempt to destroy both the decoys and the real enemy warheads. In this way, some defense of a much wider region, farther from each antimissile site, would be possible. The proposal is that, with enough sites, the entire United States can be protected. But this will not work if an attacker staggers his decoys and warheads in time and spreads them over a large area, or precedes them by a nuclear explosion of his own to "black out" our defending radars. High-altitude defense represents an improved approach to the problem of defense against ballistic missiles, but it is by no means a solution.

The basic technical fact about an ABM defense is that a sophisticated opponent can overcome any defense currently possible. Offense has all of the advantages; any defense system can be overpowered.

Today, the nuclear powers rely on the deterrent effect of their offensive missiles to keep the peace. A powerful incentive, therefore, exists for either side to increase its offensive-missile forces the moment the other starts to build an ABM system.

The Russians appear to be building a simple ABM defense around Moscow, and possibly other areas, though it is yet unclear that they have decided on a full-scale, antimissile defense system. In response, the

United States has taken steps to add decoys and multiple warheads to its own offensive-missile force. These actions on our part are still quite limited, but the steps we have already taken, especially the introduction of multiple warheads on each missile to overwhelm possible Soviet defenses, will greatly increase the number of missile warheads in our inventory. The Russians appear to have been taking similar steps in anticipation of a U.S. decision to build an ABM system. An ABM system in the U.S. will stimulate the Soviets to increase the number of their offensive warheads.

The United States is earnestly seeking some agreement with the Soviet Union to limit the deployment of ABM systems and missiles, in order to forestall a new spiral in the arms race. Unofficial conversations have been held with individual Russians, but we have not succeeded in getting discussions started at an official government level. In Glassboro, President Johnson repeated to Mr. Kosygin our willingness to explore the problem. The Soviet Union does not seem ready to discuss such questions—yet. But there is no need for us to rush into an ABM deployment.

There is little relation between a Russian decision to deploy an ABM system (if, indeed, they have made a decision for more than an experimental system) and such a decision here. Our security would be seriously endangered if the Russians installed an effective ABM defense that could prevent our missile force from reaching their territory and if they simultaneously developed an effective defense against our Strategic Air Force bombers—something they have not been able to do so far. Since it is obvious folly for us to build a defense against missiles while we also are so vulnerable to a bomber attack, the Pentagon has quietly decided to spend four billion more dollars improving our air-defense system.

I do not believe that a really effective antimissile system is remotely possible for either the U.S. or the Russians. And even if the Russians could develop one, and a truly effective defense against our SAC bombers as well, our installing an ABM system would not restore our powers of deterrence. Only improvements in our own offensive-missile force, including "penetration aids" such as decoys and electronic jammers to ensure that our missiles could get through the Russian defense, could achieve this. This is our Defense Department's basic strategy.

The United States has embarked on a large, expensive program of outfitting ballistic missiles with multiple warheads and other devices to penetrate Russian defenses. We have also started a \$2 billion program to replace our submarine-based Polaris missiles with the larger Poseidon missiles, which can carry more and better penetration aids. As long as we continue to improve our missile forces and maintain our B-52 bomber force, our deterrent power will remain effective. An ABM system is not required to preserve the power and the effectiveness of our deterrents.

We should build an ABM system only if it gives us greater security. And in deciding this, we must assume that the Russians will respond to our ABM system by upgrading and enlarging their missile force—just as we are doing in response to their ABM activities. If the Russians were to do this, an American ABM system would leave us with less security and more vulnerable to destruction.

Secretary McNamara and many proponents of an ABM system concede that an anti-Soviet ABM defense would not be worth the huge expense, because the Russians could nullify its effectiveness at considerably lower cost to themselves. So the proponents now argue: We can at least provide ourselves with protection against Red China at a more modest cost and without starting a new Russian-American arms spiral. Is this so? Again, I think not.

An ABM system would grant us some protection against China's missiles during the early years of its missile buildup; but this protection would not be complete, and it would be short-lived, certainly, much shorter than 15 years. Once the Chinese can build intercontinental missiles, the cost to them of producing additional missiles would be relatively small (perhaps \$5 to \$10 million per missile). Within a short time, they would have enough missiles (say, 50 to 100) to penetrate our "anti-Chinese" ABM system.

The Chinese would certainly build penetration aids into their missile force. The techniques of designing such aids are neither highly complex nor exceedingly costly (one can learn all about them in American aerospace journals). I do not believe, therefore, that an ABM system will give us either complete or lasting protection against Chinese missiles. I am convinced we must rely instead on the offensive deterrent, as we must with the Russians; that is, we must rely on our known ability to retaliate devastatingly in case of a nuclear attack. Ten percent of our SAC bomber force could kill 200 million Chinese.

I am very skeptical that any ABM system based on the present approach will ever work at its calculated effectiveness. No one has even succeeded in developing an antiaircraft defense that is as much as ten percent effective (three percent is a more common actual effectiveness). An ABM system that was only this effective would be almost worthless. Even if an ABM system were as much as 90 percent effective, it could still not prevent an opponent from inflicting millions of fatalities on us.

Besides, whenever an ABM system might be installed, how could a realistic test be made? We could not fire missiles at it (it would be located within the continental United States), and from hard experience during World War II, we know that far simpler devices (such as submarine torpedoes) fail to work the first time. I realize that a model system is being tested on Kwajalein, but these tests are under laboratory conditions and cannot simulate a nationwide installation manned by GI's and technicians. Even if we were willing to fire missiles at the system, the test would not be completely realistic, for we would be testing against our missiles, not enemy warheads. Few competent people expect the extremely complex ABM system to work the first time; yet it must to have any effect!

There will always remain a big chance that even if the system is working as designed, it will not intercept all of the enemy missiles. They will obviously know how our ABM system works; we will know little about their offensive weapons. Imagine the advantage a football team would have if it knew precisely its opponents' defense on every play. Remember that if a single enemy nuclear weapon leaks through the defense to a city, the city will be destroyed.

Besides, the Chinese could bypass our ABM system completely—either with low-altitude missiles launched from submarines or with aircraft, which, surprisingly enough, are more difficult to intercept than intercontinental ballistic missiles because they come in at relatively low altitude and do not follow predictable trajectories the way a missile does. We simply cannot rely upon an ABM system to give us a sure defense against a Chinese attack.

Many people also fear that the deterrent power on which we rely against the Soviet Union will not be effective against China. The exceptional anxiety expressed each time the Chinese carry out a nuclear test seems related not to their military potential but to our view of them as irrational or unstable. This anxiety rises more from Chinese rhetoric than Chinese actions. Although the words of China's leaders have been inflammatory in

the extreme, in action, they have been exceedingly cautious.

China's actual military capacity is, most likely for decades to come, hardly comparable to that of either the United States or the Soviet Union. The Chinese have an extremely limited industrial capacity (until now, they have produced no aircraft of their own!). They also lack the broad base of technically trained manpower that is absolutely necessary for a modern military establishment. Nonetheless, they have made remarkable progress in developing nuclear weaponry. They took less time than any of the other nuclear powers to carry out a thermonuclear explosion. In this, they received considerable help from the Soviet Union, in the late 1950's, as well as a good deal of technological information from open sources and their own intelligence network. And they do appear to be making progress on missiles capable of carrying nuclear weapons. Apparently, they launched one of their nuclear weapons on a short-range missile. Though we have no evidence of a Chinese long-range ballistic missile, we know that their resources are adequate to develop one and, I believe, produce it in moderate numbers (100-200) in less than a decade.

During the late 1950's, many statements by Chinese leaders minimized the importance of nuclear weapons, arguing that they did not really change the relative power balance. We heard boasts that China alone among the great powers would be able to survive a nuclear war. All this has changed. The Chinese now renounce any intention of being the first to use their nuclear weapons, and they show every sign of a growing sophistication in nuclear matters, which is to be expected as they acquire knowledge of the terrible effects of nuclear explosions.

It is China's neighbors, not we, who would be most directly threatened by any Chinese missile force, and an ABM system in the U.S. would be of little help to them. We could not deploy an ABM system in India and Japan; they are too close to China to permit the system to work effectively. What, then, must the leaders and people of Japan and India think as we make plans to hide under an ABM umbrella while they have no way to defend themselves? If the United States is so fearful of China that it must create an ABM defense, should not Japan and India conclude that it is time for them to make their peace with the Chinese? There is no easier way for us to build up China in Asian eyes. No Asian can afford to believe that we are prepared to lose New York to counter a Chinese nuclear attack against them. Some Indian officials are already asking for a missile-defense system.

Can we build a limited ABM system to protect us against China without stimulating the Soviet Union to respond with an offensive-force buildup of its own? I think not. Just as we are enlarging our missile forces because we cannot wait to see whether the Soviet Union is building a limited or an extensive ABM system, so the Russians could not wait to see whether our system would be a limited one before embarking on an offensive-missile buildup. Even if, as the President proposes, we build a thin ABM system, it would be unlikely to remain small; pressures from the military and industrial establishment to improve—and expand—it would be irresistible. Most military planners expect the system to expand rapidly, and in fact do not consider the initial system to be of much use. This is the reality of the President's decision. I am convinced that once we decide to take the ABM route, we cannot avoid an enlarged arms race.

Three other consequences of the President's decision are not generally appreciated. First, an expanded ABM system will be needed eventually to cope with decoys and multiple warheads. It will almost certainly raise the issue of fallout shelters to protect the popu-

lation both from Russian nuclear weapons and our own protective system.

Secondly, no one has bothered to mention the several hundred million dollars a year that it will cost to maintain and operate even this thin system or the billions of dollars it would take to run the final one.

Finally, our only substantial arms limitation accomplishment, the limited test ban treaty, is likely to be a victim of this step-up in the arms race. The developers of the ABM system will soon be telling us that they cannot assure its effectiveness without nuclear tests in the atmosphere. The pressure on the President to renounce the treaty in the interest of national security and protecting our multi-billion-dollar investment will be overwhelming.

The United States and Russia are learning to work together to create a more rational world order. Gone are those deep fears of a surprise attack that dominated the 1950's. The best hope for the future lies in joint efforts by the Soviet Union and the United States to eliminate the arms race. Such efforts will be impossible if each side is forced to offset the defensive and offensive buildup of the other.

Under the present circumstances, we are going to have to accept and live with a "deterrent balance." We have done it with the Russians. We will have to with the Chinese. There just is no way to avoid this; there is no magical or technical escape from the dilemmas of the nuclear age through defense. A sensible course would be to reduce greatly the offensive-missile forces on both sides, achieving the deterrence with much less danger to all of us.

Like most other scientists who have studied its problems, I am convinced that much mutually coordinated disarmament is technically achievable with considerably less risk, effort and cost than is involved in our current deterrent position. The blocks to disarmament are political and psychological, not technical. Unfortunately, disarmament has no effective political support, no vested interests backing it, and no power base in the Government bureaucracy or in the Congress. Some of the same senators who have been pressing the President to spend tens of billions of dollars on defense against a missile attack have consistently tried to cut the tiny budget of the Arms Control and Disarmament Agency. Substantial balanced disarmament is sensible, safe and technically achievable, and even partial disarmament would release many tens of billions of dollars for constructive uses. But it is not coming very fast. Until statesmen take disarmament efforts seriously and fashion international security arrangements more appropriate to the nuclear age we all live in, the best we can hope for is an increasingly nightmarish peace insured by only a balance of terror.

A real defense against nuclear-armed missiles is a mirage. Our only real security lies in peace itself. Nuclear weapons are just too potent for effective defense. The best defense is to prevent a nuclear war.

MASSACHUSETTS INSTITUTE OF
TECHNOLOGY,
Cambridge, Mass., November 29, 1967.

Congressman WILLIAM RYAN,
Cannon Building,
Washington, D.C.

DEAR MR. RYAN: I was very pleased to receive your letter in respect to the plans of the Administration to deploy an anti-ballistic missile system. I am very strongly against this measure, being both useless and dangerous. My ideas are perhaps best expressed in an article which my friend and collaborator, Provost Jerome Wiesner, has written in Look Magazine a few weeks ago. I am sure that you are in possession of this valuable document. I also was deeply impressed and convinced by the speech that Mr. McNamara has given in respect to the

anti-ballistic deployment. In the first three-fourths of his speech he is most cogently against such a measure, but at the end he was forced by the circumstances to subscribe to the Administration's policy to begin with such unnecessary and useless expenses. I feel that the anti-ballistic issue is a most dangerous one, and it is high time that the public is informed of the dangers involved. The fate of the United States and the whole world are at stake, and I am greatly heartened by the fact that congressmen like yourself and Mr. Donald Fraser are taking up this important issue. Please let me know whenever I can be of help to you in this matter. There is quite a number of members of the M.I.T. and Harvard community who would be only too glad to help you in your efforts.

Very sincerely yours,
VICTOR F. WEISSKOPF.

STANFORD UNIVERSITY,
Stanford, Calif., November 28, 1967.
HON. WILLIAM F. RYAN,
HON. DONALD M. FRASER,
House of Representatives,
Washington, D.C.

MY DEAR MESSRS. RYAN AND FRASER: I have your letter of November 17, 1967, asking for my opinion of the recent decision on the part of the Administration to proceed with the development and deployment of a "thin" anti-ballistic missile system. I am extremely glad that you and other members of the Congress are taking an interest in this vital issue since it clearly represents a decision which could have far-reaching consequences.

I should like to emphasize that I am responding to your request as an individual and not as a member of some of the military and disarmament advisory groups in which I am continuing to play a part.

It is clear that one can respond in reacting to the deployment decision in two ways: namely, one can take the decision at its face value—that it represents "thin" deployment to meet specified objectives, or one can assume that it represents a "foot in the door" to lead to a full deployment decision costing many tens of billions of dollars, which is aimed at a hopefully effective anti-ballistic missile defense against the Soviet missile force. In my reply to your letter I will not deal with the merit or lack of merit of such a full deployment; I continue to be opposed to such a move since it clearly would signal the initiation of another round of strategic escalation with the Soviet Union without a gain in security for either side. I believe that Secretary McNamara's San Francisco speech well documents the arguments against such full deployment and I heartily concur with these arguments. Whether it is politically feasible to resist the pressure for such deployment as a result of the "thin" deployment decision is a matter on which you and other members of Congress are more qualified to pass judgment. My comments are therefore restricted to the deployment decision as it relates to "thin coverage" only.

The dominant arguments now presented in favor of a quick deployment decision for the thin umbrella system are the following:

1. To give interim protection against the Chinese threat.
2. To assure survival of an adequate fraction of Minuteman ICBM's against a fully coordinated first strike Soviet attack.
3. Protection of command and control and protection against accidental attack.

I would like to comment in turn on these three arguments.

1. CHINESE THREAT

The justification for the partial system is presented in the context of a limited number of ICBM's in the 1975 time period. It should be made clear that there is no quantitative basis whatsoever for a specific projection. On the one hand the Chinese may exploit their ICBM potential for propaganda or political

purposes only and not make the major economic sacrifice involved in an ICBM production program; moreover, they may find themselves unable to sustain a major program as a consequence of the chaos produced by the cultural revolution. On the other hand, the Chinese may give highest priority to the development of an ICBM threat. It is then technically feasible for them to reach numbers adequate to penetrate the thin shield.

The proposed defense is characterized by the fact that its effectiveness is highly sensitive both to the quantitative nature of the threat and the specific level of defense. Under all circumstances it is recognized by even the most ardent advocates that the protection it can give us is of an interim nature, i.e., that we cannot "win" a defense race against the Chinese ICBM's any more than we can "win" it against the Soviets. What purpose does this interim protection serve? It appears to me that such a system can primarily permit us to implement a strategic policy vis-a-vis the Chinese not unlike John Foster Dulles' "massive retaliation" which was invoked against the USSR during the time when the Soviets did not have a nuclear delivery capability. Under this policy a massive nuclear attack by the USA could be threatened with impunity as a possible consequence of unacceptable USSR military moves, even of a minor nature, yet this policy did not prevent the buildup of USSR strength to a level which made complete defense against nuclear attack infeasible, so that the USA was forced to rely on an assured destruction capability as its primary means of averting attack.

I see no reason why the outcome of such a course should be fundamentally different in Asia. At present we could, in principle, respond by "massive retaliation" to unacceptable Chinese moves were it not for other consequences (including Soviet response or moral considerations). A limited ABM deployment would extend this policy option until we will once again have to rely on deterrence as our primary means of strategic defense. Eventually a big enough buildup of ICBM forces can always concentrate its fire on sufficiently few targets and thereby penetrate the defense by sheer exhaustion if by no other means.

An argument often cited in support of the thin ABM defense against the Chinese threat goes as follows: If we fail to deploy an ABM system the Chinese can blackmail us by threats to our cities and population and thereby immobilize our willingness and ability to resist her expansionist military moves in Asia. This argument is recognized, however, as no more than a restatement of what I have said above and means only this: We can threaten "massive retaliation" until the Chinese buildup of their ICBM threat forces us to rely on deterrence once again rather than on an airtight ABM system for strategic defense.

What price should we be willing to pay to extend temporarily our present security from Chinese threats—especially when we discern little at present that serves to retard Chinese military buildup and political intransigence? Since the Chinese must realize fully that a nuclear first strike against U.S. cities would be suicidal for them, is not our deterrence effective protection? There is no evidence whatever that the Chinese are apt to be irrational in military ventures. The Chinese military action vis-a-vis Quemoy and Matsui and other targets under U.S. protection has been exceedingly cautious. I am therefore talking only about temporary protection against a totally irrational and suicidal attack by the Chinese which would result in limited damage to the U.S. in comparison with the tragic consequence for China. For this reason I believe that by itself the Chinese threat is a very weak argument for deploying at this time the "thin" system.

A further reason for questioning the "Chinese" argument for the deployment decision relates to the reaction of our Pacific allies. On the one hand they might feel less secure if the U.S. protected itself in order to avoid pressure from potential nuclear attack by China, while leaving them exposed and vulnerable as hostages. On the other hand, they might feel more secure in the knowledge that the USA could protect them without itself being exposed to nuclear attack. Given the choice between these two arguments I doubt that the Pacific allies of the U.S. would take much comfort in this second argument while fully realizing the first. At best this reasoning must be considered to be a stand-off unless the U.S. is willing to extend ABM protection to its allies also.

2. PROTECTION OF MINUTEMAN

Although, historically, in the evolution of the Army ABM proposals "hard point defense" has not been a primary argument, I feel that the evolving rationale for deploying the limited system for defense of the Minuteman force has some justification. However, it is difficult to make it a high priority objective.

It is possible in principle that the Minuteman force can in time be denied its second strike effectiveness through increase in accuracy and numbers of the Soviet ICBM force and through the development and deployment of sophisticated, multiple warhead devices on the part of the Soviets. There is a minimum time interval between first indications of such a threat to Minuteman through new technical developments and a full-scale Soviet deployment of new devices endangering Minuteman. Should such a threat occur, an over all challenge to our deterrence would arise only if it were accompanied by the deployment of a truly effective ABM on the part of the Soviets to neutralize Polaris and Poseidon, and an air defense considerably more impenetrable than that now facing SAC bombers. Nevertheless, one can argue that all these events may happen with a lead time no longer than the time required to deploy active defense for the Minuteman force, or the time required to proliferate our ICBM force to keep up with the threat. Under these highly strained assumptions a case can therefore be made for a decision to proceed now with active defense of the Minuteman force.

Given such a decision there is still the question of whether the present system is technically the best means to accomplish this objective.

3. PROTECTION OF COMMAND AND CONTROL AND PROTECTION AGAINST ACCIDENTAL ATTACK

An argument for the "thin system" which has some validity is that it protects vital command and control points, in particular, Washington, D.C., in case of an accidental firing of a Soviet or Chinese ICBM, or in case of other limited threats. This argument in my view has considerable validity. It is certainly imaginable that there can be an accident of this nature and the chance of an irrational or ill-informed response on our part would be substantially reduced if the lines of command were protected so that meaningful investigations as to the source of actual firing and possible discussions over the "hot line" could take place before a course of action is decided.

The question may naturally be raised as to how ABM deployment, both in its present "thin" context and a possible full deployment, relates to the prospects for arms limitation or arms reduction. As you know, overtures have been made towards the Soviet Union to forego ABM deployment and to consider reduction of strategic weapons if the USSR showed some interest in a reciprocal arrangement. To the best of my knowledge these moves have not been successful, partially, of course, under the shadow of the Viet Nam war. It is my belief that including

ABM in an arms limitation agreement with the Soviets would be a very difficult negotiation problem since, traditionally, the Soviet Union has been more defense minded than the USA; that is, the Soviet Union has always spent a considerably larger fraction of its strategic military budget on defensive, rather than offensive weapons, quite apart from these ongoing moves in relation to the Soviet Union one can argue that the "thin" deployment would make it more feasible to reach a disarmament agreement with the Soviet Union in the field of long-range strategic missiles. The argument is that should one reach an agreement involving complete destruction of long-range ICBM's, but if one lacked confidence in an adequate inspection system, then the thin ABM system would offer protection against residual, clandestine deployment. This argument is valid only provided means are found to reach a point of total elimination of strategic missiles without passing through a strategically unstable situation; I am not aware of any feasible proposal to achieve such a reduction in the presence of deployed ABM. If, on the other hand, an arms reduction move is being negotiated which would provide reduction of present strategic forces to a minimum deterrence level, then the presence of a limited ABM would raise the level which each nation would conclude to be required for minimum deterrence. In short, the relation of the limited ABM deployment decision to the prospect for arms limitations or arms reduction depends on the particular scheme under discussion. Since I consider the prospects for engaging in a meaningful dialogue with the Soviets aiming at complete elimination of long-range strategic missiles to be considerably less hopeful than engaging a dialogue aiming at a simple reduction of strategic force missiles, I feel that on balance the decision for limited deployment is an impediment rather than a help toward the prospect of arms reduction agreements.

To summarize, I continue to be very much opposed to full deployment of an ABM system and I also feel that the "Chinese Argument" for deploying a thin system now lacks validity. On the other hand, I feel that there may be valid arguments, although not of high priority, for deploying the thin system for protection of Minuteman and thereby reducing the pressure for proliferating the Minuteman force, and there are also valid arguments for the thin system for protection of command and control, in case of accident or otherwise limited attack. You will note that the two arguments which I consider to be valid for deployment of the "thin" system are limited in scope and in themselves could not be used as a basis for amplification of the system. The "Chinese Argument" on the other hand, which I do not consider to be valid, also contains the implied threat of pressure for the deployment of a vastly expanded system.

I hope you will find these comments useful; clearly a great deal more can be said on this very complex question.

Sincerely yours,

WOLFGANG K. H. PANOFSKY,
Director.

INSTITUTE FOR POLICY STUDIES,
Washington, D.C., December 1, 1967.
Hon. WILLIAM F. RYAN,
U.S. House of Representatives,
Cannon Building, Washington, D.C.

DEAR CONGRESSMAN RYAN: Thank you for letter of November 16 regarding the anti-ballistic missile problem. I am very much concerned with this problem and will be happy to provide whatever assistance I can in your study of this most important question.

The recent decision to deploy a "thin" ABM system is of course most disturbing. I believe it was a most unwise decision, leading us toward a much more dangerous fu-

ture military position. It was clearly a decision impelled by the pressures of intense military-industrial (and Congressional) lobbying, in the face of Administration reluctance to initiate such a large and momentous new program at this time. The departure of Secretary McNamara only adds to my concern, since the forces resisting an all-out arms race will be weakened thereby.

It is clear from the history of ABM discussions that the "anti-Chinese" emphasis currently in vogue was developed to justify a program whose prime initial justification, as a defense against Soviet ICBMs, was not "selling". The Administration now wants to deploy such a system, directed against China, while at the same time avoiding an arms race with the Soviet Union. However, it cannot have it both ways. If the system will provide as effective a defense against the Chinese as the Administration has claimed, then it will also threaten the Soviet deterrent, and the Russians will have to expand their missile forces to keep their deterrent "credible". If the system is kept more limited, it will not work against the Chinese missiles, and cannot even be justified on those grounds.

This new program also refocuses world attention on nuclear weapons and will make it difficult to stop the spread of these weapons to other countries. This is perhaps the most important consequence of this decision. From the domestic political point of view, though, I do not see that much can be made of this, since it is difficult to raise it dramatically before the public view.

I enclose several things I have written recently on this subject, including an article in the Bulletin of Atomic Scientists on the arms control impact of ABM deployment, and a letter I have written to the New York Times on recent discussions of the deployment decision. I would also refer you to an article by Jerome Wiesner in the November 28 issue of Look Magazine.

In addition, the Federation of American Scientists has recently been in contact with Congressman Cohelan, who has also indicated interest in investigating the ABM question further. The Federation has gathered some materials for Mr. Cohelan, and I have asked Mr. Daniel Binger, its General Counsel, to make these materials available to you also.

If there is any other way I can be of assistance, please let me know.

Sincerely yours,

LEONARD S. RODBERG.

CORNELL UNIVERSITY,

New York, N.Y., February 29, 1968.

CONGRESSMAN WILLIAM F. RYAN,
CONGRESSMAN DONALD M. FRASER,
House of Representatives,
Washington, D.C.

DEAR CONGRESSMAN RYAN and CONGRESSMAN FRASER: I am delinquent in responding to your request of last November to share with you some thoughts about the decision of the Secretary of Defense to develop and deploy an anti-ballistic missile system. I am enclosing some four articles that I have written on this subject.

I would particularly like to stress the importance of not separating the ABM question from that of strategic offensive forces. I believe that from the point of view of domestic politics and with respect to negotiations with the Soviet Union, as well as giving consideration to the problems of obtaining the signatures of non-nuclear countries to a non-proliferation treaty, we need to proceed from the assumption that the issue is now to halt the strategic arms race in both offensive and defensive weapons. I believe the Secretary of Defense in the past has done a disservice in emphasizing only the need to control the defensive aspects of the strategic arms race. I hope that your efforts can be directed along lines to rectify this lopsided way of looking at the question.

I think it would be very useful if members of Congress could turn their attention to means by which the U.S. could develop a negotiating position on means to curb the strategic arms race. I realize that the Soviet Union has been resisting negotiations on this question because of the Vietnam War. At the same time you should know that there have been several quiet discussions between U.S. and Soviet scientists on this issue. They are planning to meet again. As the Soviets move closer to more of a balance with the U.S. in strategic forces, it is likely that once again there may be interest in serious negotiations on this question.

Obviously, it would be desirable for both political parties to discuss this matter in a constructive light during the campaign or at least take the issue out of the campaign by not having the parties use it as an area of controversy.

In any case hearings to explore various negotiating postures might be enormously educational as a means of focusing Congressional and public interest on the question. This at least would help to indicate to the Soviets that influential political leaders in the U.S. took the issue seriously. Furthermore, this is one of the more important areas which could have some influence on non-nuclear powers to sign the non-proliferation treaty. If such powers think the two super powers are willing to curb their own armaments, just as they are using the non-proliferation treaty to prevent others from obtaining nuclear weapons, signatures may be more forthcoming.

As to other sources you should consult, you might want to talk with George Rathjens, Jack Ruina, Frank Long, and Paul Doty.

Sincerely yours,

BETTY GOETZ LALL.

THE ABM DECISION: \$40 BILLION FOR ANTI-MISSILE-ESTABLISHMENTARIANISM

(By Betty Goetz Lall)

(NOTE.—Betty Goetz Lall is on the staff of Cornell University's State School of Industrial and Labor Relations.)

When Secretary of Defense McNamara announced last November that he was stepping up production of the newest U.S. strategic missile, the sea-based Poseidon, because there was increasing evidence that the Soviet Union had begun to deploy an anti-ballistic missile defense system around Moscow, he may not have anticipated the storm of controversy he was brewing up. His announcement raised the pitch of the debate about whether the United States should move from the research and development stage to the production and deployment stage of its anti-ballistic missile, the Nike X. The Secretary of Defense clearly does not favor spending an estimated \$40 billion over a ten-year period for such a weapon of dubious effectiveness. If the United States were to deploy an ABM and the Soviets were then to act to counter this with an improvement in their own offensive capability, Mr. McNamara has said: "In all probability, all we would accomplish would be to increase greatly both their defense expenditures and ours without any gain in real security to either side." But since the Joint Chiefs of Staff and some important members of Congress favor early deployment of an ABM system around 50 American cities, along with a necessary accompanying large-scale fall-out shelter program, it seems prudent to examine the policy choices before the American government and people at this point in time.

What are the choices? 1. Produce and deploy the currently developed Nike X system. Enough research has been done on this system to consider it deployable. If the Soviet Union took no measures (a rather optimistic assumption) to counteract the Nike X, deployed both as an area defense and around about 50 cities, it is estimated that the U.S.

fatalities from a Soviet strike might be reduced from 120 million to 30 million. If the Soviets improve their offensive capability to counteract the effect of the Nike X, which they easily can do, then the U.S. fatalities would remain at about 120 million.

The system itself would consist of three parts: a long-range interceptor missile, the Spartan, which would aim to detect and destroy Soviet incoming missiles above the atmosphere as much as 400 miles away; a short-range interceptor missile, the Sprint, which would attempt to destroy those attacking missiles getting by the Spartan; and a fall-out shelter program to protect people from the inevitable fall-out which would descend upon them by the detonation of the U.S. and Soviet missiles intercepting one another with their respective large nuclear warheads above large U.S. populations.

There are two main advantages in deploying such a system. One is the obvious saving of some 90 million lives in the event of a full-scale Soviet nuclear attack on American cities and provided no measures were subsequently taken to improve the Soviet missile capability to counter the U.S. deployment of Nike X. The second advantage is the possible further deterrent effect on the Soviet Union: it would not try to attack the U.S. because with the Nike X the U.S. would probably have the strength to counterattack and kill millions of Soviet citizens. Another, rather weak, argument is that other countries might be less likely to build their own nuclear weapons. Instead they would rely on a U.S. guarantee to come to their aid in the event they were attacked with nuclear weapons. It is contended that, if the U.S. had an ABM system deployed, such a guarantee would be more credible, i.e., the U.S. would be more likely to risk attacking a nuclear aggressor if it knew that its own population was relatively more immune from nuclear attack. A fourth possible argument is that the U.S. should adopt the Soviet strategy, spend money for an ABM system, and reduce its concentration on offensive missiles. The U.S. has been spending roughly \$4 billion on offensive missiles for every \$1 billion spent on defensive systems. If this ratio were reversed and the Soviets were also to rely primarily on defensive strength, then the U.S. offensive strength, which is considered four times that of the Soviet Union, may become less ominous to the Soviets and a reduction in tensions between the two countries might result.

SEVERAL ARGUMENTS

Arguments against ABM deployment include the following: First, the cost (estimated by McNamara to be \$40 billion for defense of 50 cities and up to \$100 billion for all major cities) is not worth it since it is unlikely that such a system would in fact reduce U.S. fatalities. The Soviet Union would surely counter U.S. deployment with stronger offensive systems, thus completely nullifying the U.S. effort. Such a large amount of money is more usefully spent elsewhere, on better offensive systems or on needed non-military projects.

Second, if the Soviet Union reacted to American Nike X deployment by improving or enlarging its own defensive force, the U.S. might then feel required to increase its offensive force, thereby reducing the possibilities for de-escalation of the arms race, improved U.S.-U.S.S.R. relations, and further arms control agreements. (In particular, ABM deployment would diminish chances to extend the partial test treaty to cover underground tests, because such tests give information on ABM effectiveness: it would reduce possibilities of an agreement to stop production of fissionable material for weapons purposes because the U.S. or the Soviet Union may decide they need to continue production for ABM nuclear warheads.)

Third, U.S. allies may decide that if the U.S. must have an ABM system, so must they, thus further reducing the likelihood of

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containing the spread of nuclear weapons. West Germany may have in the ABM a more effective argument for acquiring nuclear weapons than she had in wanting to participate in a NATO sea-based multilateral nuclear force. Germans might claim, just as the Russians do, that nuclear warheads for an ABM system are only defensive and, therefore, cannot be a threat to any nation.

Fourth, an ABM system may cause the American people and government to believe themselves invulnerable to attack and consequently to lose interest in further efforts to reach arms control and disarmament agreements; similarly, other countries would note the lack of U.S. and Soviet restraint in the arms race and conclude they should not show restraint in arming themselves.

Fifth, the U.S. is not yet absolutely sure what the Soviet Union is doing or is ultimately intending to do regarding an ABM system; a hasty U.S. decision to go ahead and deploy an ABM system might destroy the forces of restraint in the Soviet Union. (It is known that some Soviet scientists have urged their government to go slowly on deployment; if they have had some measure of success, a decision by the U.S. for major deployment would certainly weaken their position.)

Sixth, the U.S. deterrent posture should not be determined by imitating precisely whatever the Soviet Union chooses to do. There is no necessary principle of defense that states that because the Soviet Union has a certain weapon or employs a particular strategy the U.S. must follow willy-nilly. In fact, when the Soviet Union spent for air defense systems over twice what the U.S. was spending, the U.S. reaction was not to ape the Soviets in building more air defenses, but rather to concentrate on offensive weapons.

All this for and against argument, however, still leaves other choices to be considered:

2. *Decide against deployment now and concentrate on continuing to build offensive strength to overcome the disadvantages of any Soviet ABM system.* The main argument for this approach is that the deterrent to Soviet attack lies primarily in having a good offensive capability. Furthermore, the cost of a given amount of offensive capability is much less than the cost of a comparable effort in the defensive field. Offensive strength gives, moreover, greater confidence to U.S. allies that we have the wherewithal to protect them in the event war comes.

Placing major emphasis on continued offensive strength has its own disadvantage, however. This can pose as a threat to the Soviet Union, more so than defensive measures. Consequently the Soviet Union may feel compelled to continue its offensive buildup and to doubt the United States' interest in finding ways to curtail armaments.

3. *Seek agreement with the Soviets not to deploy further any ABM system.* This step would have the advantage of precluding vast expenditures for defense on either side. The status quo of the existing deterrent would remain. Each side would know that the other possessed overwhelming power to deliver deadly blows on its people causing 100 to 120 million fatalities to each side. Such an agreement might be embodied in a formal treaty or it might be an understanding or declaration made by the two sides. The need to perfect further the offensive missiles of both sides would decrease; for example, the U.S. may find it unnecessary to replace the Polaris sea-based missiles with Poseidon, thus saving at least \$1.9 billion.

An agreement not to deploy an ABM system would not require inspection on the territory of the two powers. Satellite reconnaissance can detect the large radars and other equipment related to an ABM system.

Soviet unwillingness to negotiate any kind of an agreement on defensive weapons that

lets offensive weapons stay intact is the main impediment to an agreement not to deploy an ABM. The Soviet Union has always been more defensive-minded and traditionally has spent more money on defensive measures than has the United States. Therefore, Moscow would not feel that its security had been enhanced if the U.S. were free to improve and enlarge its strategic offensive strength while the Soviet Union was forbidden to undertake defensive measures.

A simple limitation on ABM deployment by the U.S. and the U.S.S.R. had been the preference of the Secretary of Defense. In his budget presentation earlier this year the Secretary said that, although the U.S. would continue to push ahead with its ABM development program, the U.S. would "initiate negotiations with the Soviet Union designed, through formal or informal agreement, to limit the deployment of anti-ballistic missile systems." But since the Soviet Premier, in a recent letter to President Johnson, announced that he would not be content with so restricted a proposal, this leads to a fourth choice.

4. *Negotiate an agreement to limit both offensive and defensive weapons.* President Johnson apparently concurred in the Soviet request mentioned above to consider limiting both offensive and defensive missiles, and has instructed his Ambassador to the Soviet Union, Llewellyn Thompson, to pursue discussions. The principal advantage of this move is that, if successful, it would achieve a stability of the deterrent at no higher level than exists today and possibly even at a lower level. Money would be saved and valuable manpower released for other high priority projects. Non-nuclear powers would be encouraged to sign a treaty preventing the spread of nuclear weapons. Their chief complaint about such a treaty at present is that it would deny them a weapon which the two nuclear super powers had in great quantity but refused to limit in any way for themselves—relegating non-nuclear powers to a permanent position of inferiority. Already such a claim is being made among groups in West Germany, India and Japan. Restrictions on U.S. and U.S.S.R. offensive and defensive strategic weapons would demonstrate that these nuclear powers were acting to control their most important weapons.

But when offensive weapons are added to defensive as part of international arms control negotiations, there arise two added difficulties from the U.S. point of view. The U.S., since World War II (it did not take this position in the inter-war period) advocates rather complicated inspection procedures whenever it considers reducing an important part of its weapons arsenal, and these inspection procedures are usually so elaborate as to be unacceptable to the Soviet Union. The U.S. demand for inspection springs from a profound distrust of the Soviet Union, a suspicion that it would not honor its commitments; by the same token, the Soviet Union has rejected most U.S. inspection demands out of a profound distrust of the United States, a suspicion that it would use inspection as a means to carry out anti-Soviet activities in the Soviet Union. Whether this mutual distrust has dissipated sufficiently for the U.S. to moderate its inspection requirements and for the Soviet Union to accept some inspection is unlikely; but since relations between the two powers have improved slightly (though they would probably improve much more if the Vietnam war could be brought to a satisfactory end), a serious and sustained exploration of possible areas of agreement is certainly justified.

This brings us to the other problem in pursuing this choice, and that is the reluctance of powerful U.S. political and military leaders to see any diminution of the U.S. offensive strategic strength regardless of what policy is pursued by the Soviet Union. During the Senate consideration of the partial

test ban treaty in 1963, the importance of testing for the perfection of weapons, both offensive and defensive, was one of the major concerns of those Senators who were skeptical about the treaty. Additionally U.S. political leaders have convinced themselves that offensive strength is the key to security and that the margin of superiority of U.S. to Soviet strategic offensive strength must be substantial (it is now between 3 or 4 to 1). Any attempt, therefore, to limit strategic offensive weapons is likely to be regarded with hostility by some influential members of the Congress and many members of the military, especially the Air Force.

The crucial question is, what kind of an agreement might be worked out. At the outset it should be understood that serious negotiations on what both sides regard as the heart of their military strength will necessarily be long and arduous. One of the advantages of such negotiation is that it would provide both sides with a reason to defer further activity in the defensive area and to slow down the pace of what they were doing in the offensive area.

The precise nature of any agreement will be delicate to work out. There are four aspects: deployment, reductions, production, and research and development. No one appears to be advancing any scheme to curtail research and development. This is difficult to inspect, and although provocative in a sense, not nearly as much so as either production, deployment, or an unwillingness to reduce existing stockpiles. With respect to deployment, it would probably not be a difficult task for each side to ascertain through reconnaissance satellites and other intelligence techniques that the other side was not increasing its deployment of either defensive or offensive strategic weapons. Furthermore, it would not be difficult to check on reductions of missiles, since this could be done by a so-called bonfire approach; each side would place its missiles in a given location for destruction, and destruction would be observed by those from the other side or by an international inspection team.

The more difficult question is that of production controls. In 1964 the United States proposed a production freeze on offensive and defensive weapons which would cover not only a freeze on the number of strategic missiles produced, but also on all of their important characteristics. This proposal had attached to it an elaborate inspection procedure requiring entry into all the known production plants for producing missiles as well as spot checks into other plants to insure that no missiles were being produced surreptitiously. However, if the freeze did not extend to the characteristics of missiles but only to the rate at which existing missiles could be replaced, then the inspection procedures might not be so onerous. This might not even require inspection of production plants, but rather, only inspection of the replacement. Such a procedure might be sufficiently unobtrusive to be acceptable to Soviet leaders.

The possibilities for agreement may be dependent on the course of the other areas of Soviet-U.S. relationships, particularly Vietnam. Any agreement may have to await the outcome of that struggle, but if that outcome can be mutually satisfactory, then there is real hope that the perplexing ABM problem can also be resolved.

[From the Bulletin of the Atomic Scientists, September 1967]

CONGRESS DEBATES THE ABM
(By Betty Goetz Lall)

(NOTE.—"On the ABM question . . . the pattern of Congressional interest shows some usual and unusual aspects. . . . They [Congressmen] are pondering many of the consequences of a decision to deploy or not to deploy. There is no panic and little oratory.

They do not pretend to have pat solutions to the problem and clearly most would like to be confronted with a case of successful diplomacy to avoid a commitment to deploy.")

It is a virtual certainty that when President Johnson and Secretary of Defense McNamara decide to undertake some degree of production and deployment of an anti-ballistic missile system for the United States, Congress will not object. On major weapons systems, especially those recommended unanimously by the Joint Chiefs of Staff, Congress as a body does not usually try to override the decisions of the military and its civilian chiefs. The ABM case is not likely to be an exception. What Congress frequently does is to recommend production of arms before the Executive branch has judged them to be essential for the nation's security. When this happens the uncertainty is whether or not the Executive branch will adhere to Congressional conclusions.

On the ABM question, which became a major public issue in 1967, the pattern of Congressional interest shows some usual and unusual aspects. It is the purpose of this article to discuss pertinent Congressional concerns as they have evolved by mid-1967.

HISTORY OF THE ABM AND CONGRESS

Research and development on the first U.S. ABM system, the Nike Zeus, began in fiscal 1955; it grew out of the Nike Hercules and Nike Ajax systems, the two surface-to-air missiles designed to protect the population from an attack by Soviet bombers. Congress authorized and appropriated the funds requested by the Executive branch for Nike Zeus research and development, without substantive comment, until 1959 when the Army announced that the system was ready for production and deployment. The U.S. Secretary of Defense, Neil McElroy, rejected the Army's request but the dispute precipitated considerable Congressional discussion; at that time the issue was resolved by Congress adding to the defense budget \$375 million for the "acceleration of the Nike Zeus and/or the modernization of Army firepower." Because of technical weaknesses in the Nike Zeus, research and development began in 1963 on a new system, the Nike X. Congressional interest remained minimal, a technical question was asked now and then during authorization or appropriation hearings, but on the floor of the House or Senate no attention was given to the ultimate and strategic implications for U.S. national security policy.

Later in 1963, however, when the partial test-ban treaty was before the Senate, interest in ABM increased due to opposition to the treaty on grounds that it would preclude perfection of an ABM. Once this opposition was overcome and the treaty ratified, Congress reverted in 1964 and 1965 to its previous relative disinterest.

In 1966, as a result of a recommendation by the Joint Chiefs that Nike X was ready for production and deployment, the Senate Armed Services Committee recommended an additional \$153.5 million for preproduction of long leadtime items for the ABM and \$14.4 million for additional developmental efforts. The House Armed Services Committee, in agreeing with the Senate, said in its report:

"Recent advances in technology and concepts of deployment permit a blanket of protection for the whole United States against a relatively small number of attacking missiles, and tighter protection against heavier attacks for 25 major cities, at a five-year cost of \$8.5 to \$10 billion. Because of its building block or modular design concept, the Nike X system lends itself to the initial deployment of a light defense for a small number of cities and a later addition of more extensive and intensive coverage as circumstances capable of defending against not only intercontinental ballistic missiles, but also mis-

siles that might be launched from Polaris-type submarines. Even a modest ballistic missile defense might save millions of American lives in the event of an enemy attack.

"The committee is not attempting to define the ultimate type or scope of a ballistic missile defense deployment and it is not necessary to make such a determination now. The leadtime between a decision to proceed with deployment and the attainment of an operational capability is so long, however, that the committee considers the cost of buying a saving of about one year in such a deployment as being reasonably priced insurance when one considers the consequences of being attacked without any protection."

The Senate and House accepted their Armed Services Committees' recommendation with a modicum of debate—Representatives Bennett (D. Fla.), Sikes (D. Fla.), and Younger (R. Calif.) were for deployment and Senators Clark (D. Pa.), Young (D. Ohio) and Representative Cohelan (D. Calif.) were opposed. The Secretary of Defense subsequently announced that we would not spend the money at that time, on the grounds that it would not add to U.S. security because the Soviet Union would act to counter effectively any major deployment effort and China would not have an intercontinental ballistic missile capability before the mid-1970s.

In late 1966, probably to justify accelerated development and production of the advanced Poseidon missile—a substitute for the Polaris missile—Secretary McNamara announced that the Soviet Union had accelerated its deployment of an ABM system around Moscow. But the President and Secretary McNamara, in presenting the defense budget to Congress for fiscal 1968, continued to hold the view that deployment of an ABM system was not now desirable and that any such decision should await the outcome of proposed talks between the Soviet Union and the United States on an agreement to freeze ABM deployment on both sides. (The Soviets requested, in February 1967, that these talks be expanded to include strategic offensive as well as defensive missiles.) The major public Congressional reaction to the McNamara announcement was a telegram sent to the President by the Senate's Assistant Minority Leader, Senator Kuchel (R., Calif.), a member of the Defense Subcommittee of the Appropriations Committee, who urged agreement to freeze ABM deployment between the United States and the Soviet Union as a means to forestall "a new and ominous round in nuclear arms race" if both sides deployed ABM systems. Not objecting to this advice, the President nevertheless requested \$377 million for ABM of which \$91 million was for contingent funding for the initiation or procurement of an ABM system if talks with the Soviets proved unsuccessful. Congress approved the Administration request.

SCOPE OF CONGRESSIONAL INTEREST

In contrast to its posture on most defense policy questions, Congress showed aroused interest in whether and when the United States should begin to produce and deploy the Nike X system, which expressed itself in the following ways:

What size system, when, and against whom. The Joint Chiefs wanted deployment of an extensive system around 25 cities, in addition to an area defense networks; but the Secretary of Defense wanted to postpone a decision about deploying any system. The Senate Armed Services Committee took a middle course and recommended consideration, in the U.S. negotiations with the Soviet Union, "of the desirability of our deploying a 'thin' ABM defense against such threats [as China, an accidental firing, or a form of blackmail], or those that might be posed by future nuclear powers." Such a system could be expanded later, the Committee felt,

until full deployment was reached covering the entire country, including protection of Minuteman missile sites. On March 21, 1967 Senator Russell (D. Ga.), chairman of the Senate Armed Services Committee, presented the Committee's views and added:

"It seems to me that the objective in defense should be to prepare to save all that you can, even if you are unable to save everything and everyone. Fortunately, it is not necessary to decide now what the ultimate scope of the deployment need be. . . . The Committee, of course, does not oppose negotiations with the Soviet Union on an agreement banning the deployment of complicated, expensive, and extensive missile defense systems. We believe, however, that these negotiations should take into account that a bilateral agreement would leave us vulnerable to a possible nuclear attack from Communist China, or even an accidental attack. The Committee feels that full consideration should be given to permitting deployment of at least the 'thin' ABM defense. . . ."

The Chairman's somewhat satirical response to the arguments of Mr. McNamara—that the Soviet Union would act to nullify any ABM system installed by the United States by improving its offensive systems—was "in trying to support its conclusions that it is expensively futile to build an ABM defense against the Soviet Union, the Department of Defense presented an inviolated series of assumption, hypotheses, and assumption upon assumptions. In its latter stages, this exercise gets too esoteric for me to follow. If one accepts every premise in this syllogism, he will arrive at the conclusion the Department desires. More seriously, the Department's case is based more on . . . the assumption that the reaction of the Soviet Union to our ABM deployment would be 'equal, opposite, feasible, and possible'."

The Committee did not appear to be panicky about the need for haste to begin deployment (construction of a thin system would require at least four to five years) nor impressed with arguments that the "decision should be postponed for an indefinite period. Some members of Congress expressed greater impatience. Senator Thurmond (R. S.C.), the most vocal in favor of immediate deployment, inserted into the *Congressional Record* several articles and editorials supporting this point of view and himself told the Senate: "The most urgent task facing the 90th Congress is to spur the Administration toward immediate and decisive action in beginning forthwith the preproduction engineering on the Nike X system as authorized and funded by Congress." Senator Fannin (R. Ariz.) addressed the Senate April 12 on "The ABM—Let Us Begin." His case rested on the report that the Soviets had begun deployment and were increasing their offensive weapon capability.

On the House side Representatives Ashbrook (R. Ohio), Evins (R. Tenn.), Gross (R. Iowa), Michel (R. Ill.), Roudsbush (R. Ind.), Sikes (D. Fla.), and Taylor (R. N.C.), publicly indicated, through remarks in the House or inserts in the *Record*, that they favored proceeding immediately with deployment. Representative Berry (R. S.D.) proposed a radical step in order to obtain a favorable decision for deployment. On February 16, 1967, he introduced a bill (H.R. 5586) "to provide that no further appropriations for the purpose of furnishing foreign aid shall be deemed to be authorized by the Congress until an adequate antimissile defense system for the U.S. has been constructed." It is unlikely that the House Foreign Affairs Committee seriously considered such an extreme measure.

Is cost a factor? Although Secretary McNamara stated that cost was not a factor in deferring a deployment decision, his emphasis on a \$40 billion program led several in Congress to evaluate the issue partly on that basis. Senator Symington, not neces-

sarily an opponent of "deploy now," responded to testimony by Secretary of the Army Vance at hearings before the Senate Foreign Relations Subcommittee on Disarmament by saying:

"You say \$3.5 billion to defend against the Chinese [referring to a 'thin' ABM system]. We had previous testimony on the Terrier, Talos, and Tartar. We used \$3 billion alone for those lost missiles. I do not know how many billions were lost on Bomarc, but it was plenty. I do not know how much was lost on the Nike Ajax or Nike Hercules, or Atlas, but it was plenty more. I would guess the overall figure was \$10 billion if it was a nickel. It might be a good idea if you would at some time get up a table for the record to show what we have lost on missiles abandoned, as one of the reasons for justifying not going ahead with the ABM."

Senator Gore (D. Tenn.), chairman of the Disarmament Subcommittee, stressed that cost was not a key consideration for him: "This business of equating the possible killing of 80 million people, which is almost half of our population, with a cost of \$40 billion just would not appeal to me," he said. "But if there are other and more compelling reasons, then let us have them." Senator Symington agreed with this view. Also discounting cost an argument against deployment was Senator Ervin (D. N.C.) who said: "We scatter over the earth hundreds of millions of dollars in foreign aid; certainly this nation can afford to spend \$40 billion for such a program." Senator Young (D. Ohio), opposed ABM deployment partially on cost. It "would be a complete waste of taxpayers' money," he asserted in the Senate, and advocated instead an overwhelming offensive as the best defense.

Negotiations with the Soviet Union. Since the Administration position was to postpone a decision on deployment until determining the outcome of negotiations with the Soviet Union, some in Congress directed their attention to the wisdom of this Presidential decision and the likelihood of successful negotiations. Senators Clark, Fulbright, Javits, Proxmire, Symington, and Young supported the President on his decision and Representatives Moss (D. Calif.) and Rosenthal (D. N.Y.) inserted editorials into the Record urging negotiations with the Soviet Union. This is probably the first time since the Cold War began that so many in Congress publicly urged the Administration to seek negotiations with the Soviet Union on an arms control measure. In the past Congress has been skeptical or hostile and seldom so willing to look to negotiations as an alternative to pursuing military strength.

Other Congressmen, however, expressed concern that negotiations would drag on and the Soviets might stall; meantime the United States would be falling behind the Soviet Union in proceeding with deployment. Some tried to obtain a firm answer from Administration spokesmen as to what would be a maximum time limit for negotiations. This answer tended to be vague or classified, but on one occasion a time limit of five or six months was suggested. Senator Gore was one who wanted a limit on negotiations. "This time element," he claimed, "is something about which I feel a sense of urgency that, in all candor, I have not detected in the President's statement." In a different tone, Senator Sparkman (D. Ala.) offered the advice: "My impression has been that the matter was rather sensitive and that, perhaps, it was felt that we would have a better chance of making headway with the Russians if we went into it in a soft and quiet manner. We ought to feel our way." Yet, Senator Symington pursued the point: "I do think here in Congress we ought to have some idea as to how long we wait." The answer from Secretary Vance: "I think it all depends on how the discussions seem to pro-

ceed. If we are making progress then we would be willing to wait longer than otherwise. . . ."

The Senate Armed Services Committee went on record as favoring negotiations but added that funding for initial production for deployment should be used "if an agreement that fully protects the interest of the United States cannot be consummated within a reasonable period." Senator Javits demurred from such a view and told the Senate that "even if the negotiations do not succeed, I would wish to evaluate the strategic implications involved in such an antiballistic missile system at that time." The New York Senator also took exception to the proposal in the Committee's report that negotiations with the Soviet Union should explore the desirability of deploying a thin system for protection against any Chinese threat. He said he felt this would not be "a proper element of negotiations with the Soviet Union."

Few Senators evinced interest in the kind of position being developed by the Executive branch for presentation in negotiations with the Soviet Union. Even after President Johnson announced on March 2 that he had accepted, at the Soviets' request, inclusion of offensive as well as defensive missiles in projected U.S.-USSR negotiations, Congressmen did not inquire about the U.S. negotiating position. On one occasion during Armed Services hearings, Senator Young (R. N.D.) asked Mr. McNamara whether an agreement with the Soviets to freeze ABM systems would require inspection. The answer, oddly enough, was deleted as being classified. Although the Secretary of Defense suggested that an agreement with the Soviets might be either formal or informal, Congress did not pursue the meaning of informal. Usually Senators in particular are sensitive to any possibility of the Executive branch circumventing use of the treaty power. In any event, without further inquiry into the nature of the U.S. position, Congress will not be knowledgeable enough to assess cause if the negotiations fail.

Only Senator Gore seems to have advanced a proposal for ABM agreement. He urged the Secretary of State to suggest "to the Soviets a willingness to discuss the feasibility of an international agency, preferably the U.N., deploying a thin ABM line. If you will look at the world in terms of a sphere, a thin line of defensive ABMs, running, say, from Greenland to Kamchatka, would bisect just about all fixed bases of missile trajectories from the Soviet Union to the United States. Has the administration given any thought to utilizing an international agency in this regard, to give some security, some feeling of safety to both countries?" Secretary Rusk promised to consider such a proposal, although he noted that there were problems of who would pay the cost and under what circumstances firing would take place.

Impact on the economy. Of interest to some in Congress is whether heavy defense expenditures, such as those that would be involved in an ABM production and deployment system, might have undesirable consequences for the economy. Senator Aiken (R. Vt.) expressed his apprehensions during the Disarmament Subcommittee hearings:

"I think we are overlooking one important phase of this whole program. That is the growing dependency of areas and States on Government orders until they get to where they are almost helpless. For example, for the State of Washington over 50 per cent of their gross national product is from Government. California and Connecticut are also highly dependent, and this will certainly increase. It might be a mutual dependency on the part of the Government and the States on how the work is being done, but I am wondering how far we want to go before

we divert them back to something of a different nature. For instance, I believe the Connecticut Brass Works are now offering 33 per cent of their facilities in the production of shell casings. How far can they go in that direction, and then say, 'We have to keep on with this, we have got to look for uses for this product we make because we cannot afford to stop business or readjust anything.'"

On the same theme Senator Clark introduced into the Record an article, "Thirty Billion Dollars For Whom?—Politics, Profits, and the Antimissile Missile." The article by Frederic Collins in *The New Republic* listed some 20 companies as being important contractors in ABM development and production, and suggested that because the various plants of these companies permeate most of the states and a majority of Congressional districts, pressures may mount on Congress to seek a positive decision on deployment.

Although he did not label it blackmail, or any other opprobrious term, Senator Russell referred to a speech by Dr. Harold Agnew, head of the Scientific Laboratory Weapons Division of the AEC Los Alamos Laboratory, where Agnew said that "companies working on the Nike X were now ready for the next step but might disband their technical teams and convert their facilities to other uses if the system is kept in suspension another year."

Effectiveness of the system. Administration spokesmen claim that the present effectiveness of the Nike X in shooting down incoming missiles from Soviet territory would reduce American fatalities by 90 million in an all-out nuclear exchange. McNamara would deploy the system were it not for his conviction that the Soviets would act to counter it and thus render it completely ineffective. Not all Congressmen, however, have been persuaded that the present system is ready for deployment. When the Defense Department's authorization bill for fiscal 1968 was being discussed in the Senate, Senator Smith (R. Me.) said:

"It was with considerable reluctance that I joined in the committee's approval of the authorization with respect to the deployment of an antiballistic missile defense system. I can give no assurance that I will do so again next year. I am becoming more and more inclined to believe that the Secretary of Defense is right—but for the wrong reason—on this issue. I am not convinced that the state of the art on an anti-ballistic missile defense system has reached a relatively static status. . . . I am not convinced that the ground placements of what may appear to be Russia's anti-ballistic missile defense system are what they seem but that rather they may be decoys of classic deception designed to motivate us to a very costly defense system that may be obsolete or become obsolete in the near future."

In a different way Representative Dorn (D. S.C.) also objected to the system. Speaking on the theme, "\$40 Billion Folly," and the fact that the Joint Chiefs' proposal would protect only 25 to 50 cities, he said: "What then would happen to my constituents and the millions of other patriotic Americans in the thousands of cities and rural areas throughout our country?" His answer—build a strong offense everywhere including space and under the sea. Representative Fraser (D. Minn.), in inserting an article by James Burnham against deploying ABM and instead relying on offensive deterrent power, was perhaps also indicating sympathetic interest in this viewpoint.

Senator Clark questioned the whole concept of relying so totally on either offensive or defensive power. He exclaimed during a Disarmament Subcommittee hearing:

"From where I sit there is a basic blind spot in this whole discussion, not only philosophically but logically. You gentlemen are, of necessity, engaged in utilizing your mag-

nificent talents to attempt to defend the United States as best you can against an armed attack of any enemy nuclear force. You must, therefore, make the basic assumption that there is and always will be an enemy. But as politicians . . . we must devote our best interests toward developing international cooperation as opposed to international conflict. Accordingly, when you tell us what can and cannot be done with an antiballistic missile system, you are, in effect, merely giving us advice as to what we should do in our efforts to persuade the Soviet Union and China to substitute cooperation for conflict. Our task, therefore, is to try to bring peace to the world not through deterrence, but through disarmament. Your advice in that regard is essential to us, so that we should not take an undue risk."

Civilian versus military. Perhaps one of the principal reasons why debate on the ABM during 1967 blossomed into full controversy is that expert opinion in the Executive branch is divided. It would not be likely that so many members of Congress would take such an active part in discussions if the respective sides could not point to experts in the Administration to support their points of view. Most Congressmen consider themselves laymen, especially on military and foreign policy questions, and in the absence of expert advice tend to defer to those who appear to have superior knowledge. With the civilian chiefs, Defense Secretary McNamara and Army Secretary Vance, on one side, and the military Joint Chiefs of Staff on the other, members of Congress could be comfortable and confident taking either position publicly.

Senator Symington, however, expressed apprehension about the possible effect of the civilian-military division on the military. He felt there was too much anti-military feeling being voiced in his state. "Doesn't it worry you," he asked of the Defense Secretary, "to make a civilian decision of this character [not to deploy an ABM] against the unanimous opinion of the Joint Chiefs; and second, don't you think, when you do that . . . that it somewhat denigrates the position of the military before the American people?" The Secretary thought not.

Soviet intentions. Discussions of why the Soviet Union had undertaken to deploy an ABM system seemed to reveal an important shift in attitudes toward the Soviet Union on the part of some members of Congress. As witness after witness in the Executive branch explained Soviet behavior in deploying an ABM on the ground that historically the Soviet Union is primarily defense minded, legislators appeared not to question the conclusions held officially, though only a few years back, the government's view was that the Soviet Union was an offensive, aggressive power. Senator Lausche (D. Ohio) finally asked why the Soviets did not follow our example: "Why haven't they gone forward with the development of an offensive system? Why have they gone forward with this defensive system? If it is good for them why isn't it good for us?" The answer from an Executive branch expert: "I can only repeat because I have it from history and I heard other people saying it, is that the Russians are defensive-minded and, for a country which has been throughout their history defensive-minded, an ABM would appeal to them." And Senator Case (R. N.J.), after listening to Executive branch witnesses discuss the fallout problem in an offensive-defensive missile exchange, commented: "This is leading toward the argument that the present antiballistic missile system would be more valuable for us [deleted] than to have our present and projected larger numbers [meaning large numbers of offensive missiles]."

These are the questions, comments, and views of those in Congress who are beginning to concern themselves with a major

issue in defense and foreign policy. They are pondering many of the consequences of a decision to deploy or not to deploy. There is no panic and little oratory. They do not pretend to have pat solutions to the problem and clearly most would like to be confronted with a case of successful diplomacy to avoid a commitment to deploy. But they have not yet looked closely enough to learn in what manner the Executive branch is pursuing the course of negotiation.

[From the Bulletin of the Atomic Scientists, March 1967]

SUPERIORITY AND INNOVATION IN U.S. DEFENSE FORCES

(By Betty Goetz Lall)

Anyone who follows the U.S. defense program is aware of the constant change taking place as weapons conceived of yesterday, developed today, and produced tomorrow will be labeled, by military planners, as obsolete day after tomorrow. Those who are deeply engrossed in the process of weapons building—in the Pentagon, defense companies, and the committees of Congress that oversee the Defense Department—are necessarily preoccupied with the goal of achieving the most modern and advanced military force for the U.S., within a politically acceptable cost range. Most citizens shrink from any effort to evaluate what should be the proper dimensions of the defense budget and the principal factors determining the size and quality of the U.S. military force. And yet a growing question is: should not at least some citizens be capable of and interested in making competent judgments on how much of the nation's resources should be devoted to military activities? Is the matter

of defense policy so different from other public issues that the citizen should be absolved of responsibility to inform himself and enter into discussions on the nature of the defense establishment?

In the current fiscal year, U.S. offensive and defensive strategic nuclear forces and civil defense measures constitutes slightly over 11 per cent of the total budget request. This total includes funds for Vietnam except for the supplemental requested by the President in December 1966. In fiscal 1964, the last year before the build-up in Vietnam, the strategic nuclear war forces amounted to about 18 per cent of total defense expenditures, \$9.3 billion out of \$51.7 billion. Of total funds for offensive and defensive forces, the offensive has since been absorbing about 80 per cent, an indication that the United States believes that offensive strength is better protection from attack than defensive strength.

The U.S. strategic offensive force began expanding substantially in the first year of the Kennedy administration. Although the Democrats in 1960 had charged that there was a deficiency in the number of U.S. intercontinental missiles compared to those held by the Soviet Union, this was found not to be the case once the Democrats took control and examined the evidence more closely. The United States possessed over 100 ICBMs compared to an estimated 25 for the Soviet Union. U.S. long-range bomber forces also exceeded by a considerable number those of the Soviets. The United States nevertheless, proceeded to build missiles at a fast pace until the ratio of U.S. to USSR ICBMs by 1964 was over six to one—1,250 to 200 (see the accompanying chart).

U.S. AND SOVIET STRATEGIC FORCES

	1962	1963	1964	1965	1966	1967-68
UNITED STATES						
B-52 (long-range bomber).....	630	630	630	630	600	600
B-58 (long-range bomber).....	90	90	90	80	80	80
FB-111A (long-range fighter-bomber).....						210
Atlas (ICBM—66 in soft sites).....	90	126	126	(?)		
Titan I (ICBM).....	36	108	54	(?)		
Titan II (ICBM).....			54	54	54	54
Minuteman I (ICBM).....	150	180	600	800	800	(?)
Minuteman II (ICBM).....					50	1,054
Minuteman III (ICBM).....						
Polaris A-1 (sea-based missile).....	80	80	80	80	(?)	
Polaris A-2.....		80	208	208	208	208
Polaris A-3.....			128	208	448	448
SOVIET UNION						
Bison (long-range bomber).....	120	120	120	120	120	(?)
Blinder (long-range bomber).....		(?)			300	300
ICBM's.....	75	100	200	270	300	(?)

- 1 30 soft.
- 2 Phased out.
- 3 Phasing out.
- 4 Coming into force.
- 5 300 plus.

Sources: The Military Balance, published annually by the Institute of Strategic Studies, London, and statements of the U.S. Secretary of Defense.

HOW MUCH SUPERIORITY?

Why is this level of superiority thought to be necessary? The Secretary of Defense has stated that the U.S. strategic forces "are far more than adequate to inflict unacceptable damage on the Soviet Union even after absorbing a well-coordinated Soviet first strike against those forces." He has further said: "It appears that even a relatively small portion of these forces would furnish us with a completely adequate deterrent to a deliberate Soviet nuclear attack on the United States or its allies. . . . The effective delivery of even one-fifth of the surviving weapons on Soviet cities would destroy about one-third of the total population and half of the industrial capacity of the Soviet Union." (See 1966 Presentation of the Defense Budget to the Congress.) The main reason advanced thus far by military specialists is that it is

best to figure very conservatively when it comes to national security; therefore, even if only 300 missiles are necessary to assure the mission of the force, it is best to be cautious and procure five to six times that number.

Perhaps this answer should suffice for the citizen. He wants to feel his security is protected. But there are at least three other questions that emerge. The first is whether the country and its tax-paying citizens are so well off that buying five times more security than is needed is an acceptable national policy. Can this money be better used? Do we not face an unmet domestic threat of equally serious proportions—the deterioration of our cities, the cancer of spreading poverty, the slow rate of progress in achieving full equality and employment for all citizens, and the failure to raise appropriately the

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quality of educational and other social services? Do we not face a foreign non-military threat, potentially as great as the military, in the growing income gap between the so-called developed and developing nations?

A second question is how the Soviet Union reacts to a U.S. strategic offensive build-up that is over four times superior to its own. The Soviet Union decisions regarding the adequacy of its strategic force, while influenced by the parallel U.S. policies, apparently do not aim at achieving full quantitative or qualitative parity with the U.S. Its ICBM force has evidently more than trebled in the past four years. Qualitative improvements appear to be primarily in some hardening and increased mobility and in decreasing reaction time for missile firing. The Soviets have installed many second generation missiles as opposed to the third and fourth generation missiles being developed and produced by the United States.

A third question relates to how the United States can expect to achieve another national goal, presumably as important as military strength—that of stopping the arms race and mutual reduction of military strength—if we insist that this level of superiority be maintained throughout the disarmament process. Which situation buys the greatest security: a balanced reduction in the strategic strength of both sides, or an attempt to maintain current superiority and increase the size of the force whenever the Soviet Union attempts to reduce the gap? A balanced reduction of strategic forces implies a willingness to relinquish at least some of the superiority that has been achieved. To suggest such a relinquishment draws sharp criticism from most military officials. While there is no stated doctrine that a particular superiority ratio is essential to U.S. security, neither has there been a policy statement suggesting that the United States would be prepared under certain conditions to abandon its present position of superiority. Yet, it is difficult to comprehend how the United States could realize its disarmament objectives without such a willingness.

RATE OF INNOVATION

The quantitative ratio of superiority we have been discussing must be joined to the rate of qualitative change in U.S. strategic forces. How much should be expended each year on such change and what criteria should be used to determine how much qualitative change is necessary?

The American people seem to accept each year, almost as a tradition, the need to modify every model of automobile, kitchen appliance, and women's clothing produced. To what extent has this cultural phenomenon been transferred to the defense program? In the early 1950s the United States built a large force of B-47 medium jet bombers which could attack the Soviet Union from overseas bases. In 1960 the Defense Department began phasing out these planes; they were to be replaced by a large force of over 600 B-52s and a smaller force of 90 B-58 intercontinental bombers. The B-52s were constantly being modernized so that by 1963 the number of models ranged from A through H and several hundred million dollars had been spent. By 1967 models A and B had been phased out and the Air Force was in the process of phasing some of the planes of models C to F, leaving a bomber force of 255 B-52 models G and H, 345 models C to F, and 80 B-58s. In the late 1950s the Defense Department began developing a prototype for a new bomber, the B-70, and spent \$1.7 billion on development before military decisionmakers decided that it was not the plane they wanted as a replacement for the B-52. Development then began on a combination fighter-bomber, the FB-111A, and in 1966 the Secretary of Defense agreed to recommend an initial procurement of 210 of these airplanes to be fully operational by 1968 at an investment cost of \$1.9 billion. But many in the Air Force believe

another plane is also desirable and they are pressing for full development and procurement of the AMSA (advanced strategic aircraft). Several members of Congress, especially in the various armed services committees, also believe the AMSA should be developed but have not yet convinced Secretary McNamara that such a plane is needed. One of the Secretary's argument is that there is no agreed purpose for such an aircraft. Another is that since the Soviet Union has not given evidence it is building a new long-range bomber, the United States should not proceed in such an endeavor. Some congressmen are not impressed with this argument and plead instead that it is simply time to have a new plane.

An alternative to pursuing innovations in weapons at a rather rapid rate, one seldom discussed by those responsible for military policy in Congress, is a simultaneous phasing out by the United States and the Soviet Union of a given type of weapon. A few years ago the United States did offer to dismantle its B-47s if the Soviet Union would also dismantle its Badgers, the comparable Soviet medium-range bomber. The Soviets countered that since the B-47s were being dismantled anyway both countries should dismantle all bombers. The United States never agreed to this proposal, one likely reason being that since it had such a ratio of superiority over the Soviets in long-range bombers, 600 to 300-400, this was not a good trade. Another possible reason for retaining a U.S. force of long-range bombers, despite what the Soviets do, is that this requires the Soviet Union to spend money on bomber defenses; without such expenditures the Soviet Union could divert funds to other purposes, military or civilian. As Secretary McNamara said: "... a force of 255 operational B-15 G-Hs would be sufficient to compel the Soviets to maintain their present antibomber defenses."

In the absence of any bomber agreements with the Soviet Union, matters for U.S. defense policy consideration should include the criteria by which the United States should decide to retain through 1975 B-52 models G and H by further modernization, at a cost of \$1.3 billion through 1972 and another \$600 million through 1975; to initiate further procurement of the FB-111; or to institute a \$4 or \$5 billion program to build the AMSA.

Similar questions can be raised about rates of innovation in the U.S. strategic nuclear missile force. The first strategic ballistic missiles were the Thors and Jupiters, sufficiently short range so that they had to be stationed in Turkey, Italy, and England, and were vulnerable to Soviet attack. They were replaced as soon as the United States had a fair-sized ICBM missile force stationed on its territory: 90 Atlas missiles and 36 Titan missiles. Since the Atlas missiles were also vulnerable they too were replaced by a hardened force of 108 Titans. The Titan I was fully produced and operational in 1963 but the next year saw the replacement of half the Titan I force by Titan II, which had an increased payload. Today the remaining 54 Titan I missiles have been phased out. Almost simultaneously with the Titan the Defense Department began deployment of Minuteman I, a solid fuel missile with better hardening qualities than the Titan, and the sea-based missile, Polaris A-1. A force of 180 Minuteman I and 80 Polaris A-1 missiles was operational by 1962. As they were being installed work proceeded on Minuteman II and Polaris A-2; in 1967 the latter two models will be replacing Minuteman I and Polaris A-1. Additionally, about 448 Polaris A-3 and 1,054 Minuteman III missiles will be installed as replacements for many of the Minuteman I and II and the Polaris A-2 missiles. The new models generally have longer range, increased payload, and better accuracy than their predecessors. In December 1968, Secretary McNamara announced that accelerated development on the Poseidon missile was

proceeding as a replacement for Polaris A-2 and A-3. (In the fiscal 1967 budget \$300 million was allocated for the Poseidon.) Also, early developmental work is going forward on an advanced or Improved Intercontinental Missile as a possible replacement for Minuteman II and III.

TO BE CONTINUED?

The story of the rate of innovation in the strategic force is not unlike the story of innovation in other weapons for tactical warfare or for bomber or missile defense. In the absence of knowledgeable public opinion to balance discussions on defense policy it is almost inevitable that the momentum of defense innovation will continue. As the Vice-Commander of the Air Force Systems Command reported to an advanced planning session for defense industry officials: "The task of the Air Force Systems Command is to provide qualitatively superior systems for the Air Force. In order to perform this mission, we must advance aerospace technology as rapidly as is practical and adapt it on a timely basis to the needs of our aerospace systems." Although the Systems Command is expected to relate its work to the military threat posed to the United States, the momentum of the activity in its own right is sufficiently strong that the nature of the threat appears to become less and less a factor in the analysis and in subsequent decisions about building new systems.

Few citizen groups concern themselves with Department of Defense assertions about the level of superiority or the rate of innovation in military weapons procurement. Many of those private citizens who are knowledgeable are consultants to the Defense Department and are reluctant to share with the public criticisms or alternative suggestions they may have. Ordinarily, a natural place for citizen evaluation is in the Congress where legislative review of executive agencies is one of the most important functions of congressional committees. Yet, committees most involved in military affairs tend to become friendly spokesmen for the armed services. The Chairman of the House Armed Services Committee reminded Air Force witnesses before his committee: "If you don't have any friends on this committee you don't have any friends. We are your voice in Congress. We are the only official voice, there aren't any others."

Committees with foreign policy functions in general do not review defense policies and their implications for foreign policies including disarmament. Nor do committees charged with the overall economic health of the nation and the desirable allocation of resources and division of government expenditures challenge the absolute priority of defense over other needs. An exception is the work of Congressman Reuss' subcommittee hearings on the decisionmaking process in federal research and development programs.

One possible conclusion is that unless more citizens and citizen groups interest themselves in defense policy questions there will be no effective challenge to the Defense Department's budgetary requests and policy directives except from those groups with more narrow military interests which are usually after more, not less, defense outlay. If greater public discussion can take place this surely will inspire Congress to carry out its supervisory functions more completely and comprehensively. And it will help prevent political parties and politicians from becoming demagogic about defense policies, which they are likely to do in the absence of sufficient public enlightenment and articulate concern.

[From the Bulletin of the Atomic Scientists, April 1967]

GAPS IN THE ABM DEBATE
(By Betty Goetz Lall)

There is one distressing aspect of the current discussions on whether the United States should now deploy an antiballistic

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missile system at a cost ranging from \$4 to \$40 billion. The President, the Secretary of State, the Secretary of Defense, and other government officials imply that if they cannot persuade the Soviet Union to enter into an agreement against ABM deployment the United States may then feel compelled reluctantly to go into full production and deployment of such a system either as an attempt to protect some of the people living in American cities or as protection against our own land-based intercontinental ballistic missiles. The President, in his State of the Union message, in reference to his assertion that the Soviet Union "has begun to place near Moscow a limited antimissile defense," stated that "any additional race would impose on our peoples, and on all mankind for that matter, an additional waste of resources with no gain in security to either side. And I expect in the days ahead to closely consult and seek the advice of the Congress about the possibilities of international agreements bearing directly upon this problem." The main clues as to what kind of agreements are being sought are contained in statements by the Secretary of State at a news conference on December 21, 1966 and the Secretary of Defense in his annual budget presentation to the Congress on January 2, 1967. Mr. Rusk referred to the earlier proposal of the United States that the two major nuclear powers freeze their production of offensive and defensive strategic nuclear delivery systems. Mr. McNamara said that the Executive branch proposes: "To initiate negotiations with the Soviet Union designed, through formal or informal agreement, to limit the deployment of antiballistic missile systems" and "To reconsider the deployment decision in the event these discussions prove unsuccessful."

What is missing in this discussion is the important point that in all previous arms control discussions on ABM with the Soviet Union the Soviets have indicated that the way to make negotiable a proposal on restrictions against ABM deployment is to include reductions in offensive systems as well. If Mr. McNamara and other officials of the Administration lead people to think that the only issue up for negotiation is antiballistic missile deployment then when the negotiations fail, as they are almost certainly likely to do if they do not include limitations on offensive strategic weapons, there will be the inevitable pressure in the United States to proceed with full production and deployment of our own Nike-X antimissile system.

It is difficult to know whether Administration officials have convinced themselves that the strongly held Soviet view—that offensive missiles must be part of any ABM agreement—has changed; or, that they know it has not changed but still cannot bring themselves to propose an agreement which includes reduction of part of the Soviet and U.S. land-based or sea-based intercontinental ballistic missiles. With respect to the first possibility there is little evidence in the public domain that the Soviet Union has changed its attitude. Soviet officials at both private and official conferences have fiercely supported the concept that building defensive systems is not as provocative as offensive systems. Soviet scientists privately have acknowledged that ABM systems are not effective in shooting down incoming rockets, particularly if they have multiple warheads, but such scientists have also indicated they have failed to convince their generals and members of the Politburo of the undesirability of installing an ABM system—such a view has been well known to U.S. experts in the arms control field for at least four years. The need for defense of the "motherland" can arouse as much emotion in many a Russian as the need for anticommunist measures can arouse in many Americans. When Soviet Premier Aleksei Kosygin was in London in February he seemed to reconfirm the Soviet view

when he said in answer to a question about ABM: "What would you say is more of a step toward tension in the military field, an offensive weapon or a defensive weapon?" And his answer to his own question: "The system that warns of an attack is not a factor in the arms race. On the contrary, it is a factor that reduces the possibility of the destruction of people."

If the United States realizes there is little probability that the Soviet Union would be interested in an agreement limited to ABM systems alone what is the explanation for the absence in the Executive branch of proposals for reductions of ICBMs as part of an agreement? The most apparent explanation is that the United States is simply not interested in reducing its own offensive strength. A U.S. proposal to reduce a specific number of its ICBMs in return for a similar reduction of some of the Soviet ICBMs would substantially increase prospects for agreement not to deploy further ABM systems on both sides. Along with such reductions it would be desirable to freeze for several years the production of new ICBM systems by the two countries. The United States proposed a production freeze in 1964 but has yet to suggest an agreement that would also include reductions in strategic offensive missiles. One can almost predict that if the United States did propose some scheme for reductions in offensive strength our policymakers would tie on to the reductions an elaborate inspection system that would almost certainly be unacceptable to the Soviet Union and which would perhaps in some degree go beyond the needs of the case. Given the knowledge we now have about Soviet weapons developments in the strategic field would it not be possible to check on reductions of missiles by an inspection team witnessing their dismantlement or destruction, an inspection measure the Soviets in the past have stated they would be willing to accept? Whether further inspection of production facilities would be necessary is a matter to be scrutinized carefully before decisions are taken to seek elaborate inspection of them.

The probable reason why the most likely course for the United States to follow is not to seek agreement to limit offensive systems is that the domestic pressures are almost totally one-sided. Within the Executive branch the Air Force and Navy argue strongly for a continuation of development of offensive systems because this is their mission. General John P. McConnell, Air Force Chief of Staff, said November 11, 1966, that "In the final analysis, this problem [whether an effective antimissile system by a potential enemy could lead to nuclear war] boils down to the question as to which nation stays ahead in the technological race for superior aero-space power. . . . I am confident that we can keep our deterrent strong enough by maintaining a safe margin of strategic superiority." And General Bernard A. Schriever, retired Air Force missile expert, said last November 27 that the United States should concentrate on developing better missiles rather than an antimissile defense system because there was "a grave question with respect to the effectiveness" of an antiballistic system against Soviet missiles. The Army which has the responsibility for an antiballistic missile defense takes a different view and is in favor of deploying an ABM system. This is the only important field for Army strategic missile activity and the Army naturally wants to preserve this mission. Chief of Staff of the U.S. Army, General Harold K. Johnson, told Congress last year: "I recommended that the funds be granted in the 1967 budget for preproduction, to establish a production base for the deployment of Nike X with an initial operational date of [deleted]."

Comparable pressures, other than the Secretary of Defense himself, do not seem to have come to light on the other side of the

issue. One of the most vocal was the Republican Whip in the Senate, Senator Kuchel, who called upon the President last December to initiate discussions with the Soviet Union "to seek common cause to reverse the trend in weaponry which Soviet actions [to deploy an ABM system] may have started." The Secretary of Defense's view is: "The Soviets have it within their technical and economic capacity to offset any further Damage Limiting measures we might undertake, provided they are determined to maintain their deterrent against us. It is the virtual certainty that the Soviets will act to maintain their deterrent which casts such grave doubts on the advisability of our deploying the Nike X system for the protection of our cities against the kind of heavy, sophisticated missile attack they could launch in the 1970s. In all probability, all we could accomplish would be to increase greatly both their defense expenditures and ours without any gain in real security to either side. . . . I believe that, once started, an ABM system deployed with the objective of protecting the United States against the Soviet Union would require an expenditure on the order of \$40 billion over a ten year period."

The probabilities for a satisfactory outcome to the ABM debate are not great, and the Soviet Union may just want the United States to invest the kind of money in ABM systems Mr. McNamara is talking about. Since Soviet Leaders regard defensive systems as non-provocative and since they would prefer to see the United States utilize its resources in such an endeavor, rather than to other endeavors which could be more damaging to Soviet interests, the Soviet leaders have every reason to encourage the United States to decide to produce and employ an ABM system. This may explain why the Soviet General Pavel A. Kurochkin claimed, as he did on February 20, that "detecting missiles in time and destroying them in flight is no problem." Such a statement strengthens the argument that the United States may be falling behind in ABM technology and, therefore, should proceed with ABM deployment. And it is this view that is likely to prevail rather than the view that the best interests of the United States would be served by pouring our best diplomatic strength in an effort to negotiate an agreement with the Soviet Union to limit both offensive and defensive strategic weapons systems.

COMMUNAL LIVING

HON. JOHN R. RARICK

OF LOUISIANA

IN THE HOUSE OF REPRESENTATIVES

Thursday, March 6, 1969

Mr. RARICK. Mr. Speaker, without financial assistance from without, every communal living attempt has failed.

Such has been the proven experience of man. Question it, deny it, but the truth haunts those who would hide it.

Socialistic living experiments were conducted in 1825-27 at New Harmony, Ind., and in 1841-46 at Brook Farm, West Roxbury, Mass.—both failed.

Man has not changed except for tax subsidies and tax-free grants. Some must work if there is to be production, and those who toll, tire of sustaining those who refuse to produce.

Despite the planned contrivances of the parasitical classes of society to continue to undermine the initiatives of work, thrift, and morality, without these, all is threatened to fail.

rangements under which a great deal of useful international business has been conducted. We can draw at least a minimal lesson from that experience: we are not strangers any longer, and it is not ordained that we must again become enemies.

Robert McNamara, who has been as close to these matters as any man alive, ended his long tour in the Defense Department convinced that the most dangerous thing in the world is a state of mind—the belief among powerful men on both sides, in the face of all the horrendous evidence to the contrary, that somehow the scientists will yet find a way to employ nuclear weapons so that military men may again win a war. This is the real issue in the ABM controversy; when nations begin to accept the thesis that they may be able to devise adequate protection against nuclear attack they also raise the possibility that they may yet be able to use decisively offensive missile force; and on the basis of a mixture of unfounded hopes and challenged assumptions they may turn away from serious negotiation and the effort to find a way to base international relations on liberating reason rather than paralyzing fear.

I say the time has come when we should take some risks in the name of peace, rather than continue the great nuclear gamble in the name of security. In this light ABM might yet provide a great service in advancing the strategic arms negotiations, if, having taken the system to this stage of development, we set it aside as a symbol of our determination to halt the arms race where it is, and turn it back if we can. Let us couple this with passage of the nuclear non-proliferation treaty now pending in the Senate, and go back to the negotiating table with the Russians. The application of as much energy, imagination, and determination in an honest effort to find a formula for arms control as we have invested in the effort to ring our cities with ABM will, I am confident, bring far greater rewards with less risk.

Many wise and experienced men in Washington who agree that this is what we should do insist that it cannot be done—that it is a political impossibility to reverse the policies that have produced, and are now shaped by, the military-industrial complex. It will be difficult, yes, but it is not impossible. For we cannot forget that our only chance of obtaining the huge volume of funds and talent required to rebuild American society at home lies in placing some limitation on the arms spiral. If we fail to do this, urgent domestic needs will go unmet. What is needed now is a great expansion of the dialogue set forth in this paper: let us get the issues out in the open, and get them clear. The fundamentals of the missile controversy are not beyond the comprehension of the American people, and certainly no decision of the magnitude of ABM should be taken on their behalf without greater evidence of their informed consent than can be said to exist presently.

GENERAL LEAVE

Mr. COHELAN. Mr. Speaker, I ask unanimous consent that all Members may have 5 days in which to extend their remarks on the topic of this discussion.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from California?

There was no objection.

GENERAL LEAVE TO EXTEND

Mr. YATES. Mr. Speaker, I ask unanimous consent that all Members may revise and extend their remarks in connection with the colloquy on the special orders this afternoon.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Illinois?

There was no objection.

PROPOSED ABM SYSTEM

The SPEAKER pro tempore (Mr. STRATTON). Under a previous order of the House, the gentleman from Wisconsin (Mr. REUSS) is recognized for 60 minutes.

Mr. REUSS. Mr. Speaker, before recognizing the gentleman from Connecticut (Mr. GIAIMO), and the gentlewoman from Hawaii (Mrs. MINK), and some others who have been on their feet, I do want to say to the gentleman from Indiana (Mr. DENNIS) that I welcome his transforming this monologue into a debate, and during my time I shall attempt to provide some additional answers to the very legitimate question the gentleman raised.

I will now yield to the gentleman from Connecticut (Mr. GIAIMO).

Mr. GIAIMO. Mr. Speaker, I thank the gentleman from Wisconsin for yielding.

I would state that I rose for the purpose of trying to address an answer to the legitimate question of the gentleman from Indiana who stated that he was concerned that at some future date there may be an attack by the Chinese, and that we do not have an ABM system to defend us against such an attack. He properly asks, how would we feel then had we taken this position today?

I believe the answer to the question is that if we had an antiballistic missile which was effective, if we were convinced that it would provide an adequate defense against an attacking Chinese missile, we know it will not provide a defense against a Russian missile—if we knew all that, then there would be all reason and justification for deploying this system today.

But the evidence seems to be clear that we will be living under a false security if we deploy an ABM system which will not be effective.

To date the evidence before this Congress consistently has indicated on the part of the military that the ABM missile would not be effective against an attack because, although they say that a thin system might be effective in what they would call a small attack, they clearly indicate that it would not be effective against a missile attack by the Soviet Union.

But although they state it might be effective against a small attack by the Chinese, we must presume and assume that if we deploy an ABM system, the Chinese, who have not as yet deployed an ICBM system, would develop a sophisticated attack system which would be able to overcome the defense of an ABM system.

What would that be? It might well be an attack by submarine, in which case an ABM system defense is clearly not effective. It might be an attack with deceptive devices which would negate the effectiveness of such a defense. It might be an attack by airplane, it might be an attack by a bomb literally carried

into this country on board some surface ship against which an ABM system would not be effective.

It might even be an attack such as was mentioned by the gentleman from Washington (Mr. ADAMS) which would be preceded by a preliminary weapon which would destroy our radar capability, therefore, allowing the second and deadly weapon to come in.

The fact of the matter is that the essence of this debate both in this body and in the other body has been that we are being asked to deploy a system which has not demonstrated its capability of defense. Before we do that, before we get involved into an expenditure which can run into billions of dollars, and come up with an ineffective system, we should pause and we should hesitate.

There has been ample warning from all sides that we should do this to determine just what we are doing and where we are going before we foolishly rely on an inadequate defensive system.

Mr. REUSS. The gentleman from Connecticut, I think, has made a very sincere attempt to provide an answer to the question raised by the gentleman from Indiana.

Just to summarize what the gentleman from Connecticut has said in his answer to the question put—What will happen 3 years from now if the Chinese lob a thermonuclear device over the room in which we are now speaking?—it seems to me there are three answers. First, the adoption of an ABM is not going to prevent that. The ABM is \$60 billion worth of obsolescent hardware before it ever gets off the ground. As Dr. Jerome Weisner, former science adviser to President Kennedy and provost of MIT, recently said:

Some weapons system are obsolete in the conception, and I think this is probably true for the anti-ballistic missile system before us. I have, in fact, come to the conclusion that any system that depends on projectiles—rather than, say, nuclear rays of electromagnetic beams or laser beams—is futile.

So an ABM system now would be putting all our eggs in one very leaky basket and it would mean that we do not proceed with the research and development of devices that are more promising ways to achieve this miraculous bullet that shoots the bullet.

If we could do this, then truly mankind might rest relatively easy for the first time since 1945.

The second answer to the question raised by the gentleman is that, if we do proceed to deploy the ABM in its present conceptual form, it is a simple matter for a very primitive Red China, instead of lobbing just one missile over us, to lob two, the first one by its ionized gases to immobilize our radar system and the second one to do the business.

Third, and perhaps the most fundamental point, is simply this:

Since the fission of the atom, since these terrible weapons were unleashed on the world 24 years ago, the whole science of warfare has changed. People everywhere in the world are menaced by sources of military power indescribably far off.

In such a world, it is very easy for anyone, including the sincere and well meaning, to say, "Look, the device that I propose, though it costs \$100 billion, could bring us a tiny fraction closer to security."

Yet, as the world is now constructed, there is no real security, and in the end our security must come through a leveling off or deescalation of weapons of destruction.

I want to thank the gentleman again for posing the important question that he did.

Mr. YATES. Mr. Speaker, will the gentleman yield?

Mr. REUSS. I yield to the gentleman.

Mr. YATES. I think the gentleman gave an excellent answer to the question posed by the gentleman from Indiana.

I would just like to add this final thought and that is that the thesis of our defense today is our power to retaliate with the basic offensive capability that we have. There is no defense that we have against the Russian power to unleash its missile might upon us except our power to retaliate.

I have been unable to understand why if we are satisfied, perhaps perforce, to accept this position and this confrontation with the Russians, the two missile giants holding each other off by the power of their offensive might, why that thesis is not equally valid against the Chinese, who have no missile threat in being, who will only have a primitive missile threat in the foreseeable future, and whose country and whose people can be destroyed by our nuclear missiles as well. Why if we are willing to have this kind of confrontation with the Russians with this powerful force, why is it not equally and even more valid against the Chinese?

Mr. REUSS. I believe even the Pentagon would concede that our current missile potential is greater than that of Communist China, and under the circumstances we would be bargaining from power. I think the gentleman has raised a point so delicious in its simplicity as so far to have escaped the powers of the Pentagon.

Mrs. MINK. Mr. Speaker, will the gentleman yield?

Mr. REUSS. I yield to the gentleman from Hawaii.

Mrs. MINK. I would like to join my colleagues in commending the gentleman from Wisconsin and his colleagues for giving us this opportunity to hear this very important debate, and also to make our small contribution.

Hawaii was one of the recommended locations for the ABM. Until this date a specific site has not been selected. The people of my State are quite concerned about this issue. I have longed for an opportunity to express myself.

I think that the most grave fault in this recommendation comes from the false sense of security that the people would derive from the construction of such a system, the innocent belief that it would provide them with protection from a nuclear catastrophe.

I believe that everyone recognizes that a nuclear war is unthinkable, and yet as unthinking as it is, people naturally have

the feeling that they would want to survive if one should ever come.

On September 18, 1967, Robert McNamara announced plans for a limited, ABM defense system called Sentinel. We are told that he reached that decision under intense political pressure against his better judgment. His own words seem to bear that out, for in announcing the system, he made a better case against it than for it.

He said:

There is a kind of mad momentum in the development of nuclear weaponry. If a system works, there is strong pressure to deploy it out of all proportion to the prudent level required.

Mr. McNamara feared that the construction of a light ABM system would lead at once to demands for a heavy one; and he said we must firmly resist those demands, because our greatest deterrent against attack is not a costly defense system of questionable reliability, but a fully credible, offensive, destruction capability.

It is an accepted fact that the one thing which prevents any nuclear power from attacking another, is the certain knowledge that such an attack would be suicidal. It is a situation which has been properly described as "the balance of terror," and it is the situation which now prevails. It is certainly not a pleasant situation, but it has worked. Now the proponents of the ABM seek to disrupt that balance of terror, and they tell us that the deployment of the ABM will make us a little safer, will give some assurance to our survival as a nation.

I think otherwise.

In the first place, any argument in favor of the ABM system must be based on a number of assumptions. It seems to me that two of the most important assumptions that must be made are: first, that the system will work, not only under laboratory conditions but under the unpredictable conditions of an actual nuclear exchange. That is generally accepted as a rather questionable assumption. Second, we must assume that the Russians will do nothing to counter the ABM. That is not even a questionable assumption—it is innane.

I subscribe to Jerome Wiesner's view of a high degree of unreliability in the system and to the probability that we shall never know about that unless the system is employed under the actual conditions of an attack, and such conditions cannot be duplicated under any controlled situation, nor can they even be predicted. Who can say what will happen in the environment when a hundred or several hundred warheads are exploded within minutes of each other on both sides of the globe and throughout the atmosphere? No one can.

But even if it would work—even if we could be guaranteed that it would work—the question would still remain, "should we build it?"

What would be the effect of such a system on present international relations? I think it would clearly exacerbate them. Could we really expect the Russians or anybody else to improve relations with us while we are at the same time stripping them of their nu-

clear deterrent which they truly believe to be necessary to their continuing existence? The idea is ridiculous. We are completely convinced that our survival depends entirely upon our nuclear capability, but we fail to understand how the Russians or the Chinese might hold the same conviction. Assuming that they do hold that conviction, they could never consider an American ABM as a purely defensive system no matter what we might say about it. And viewed in the context of the theory of deterrence it could not be a purely defensive system since its mere existence would negate some part of their deterrent system thus giving us a greater offensive capability as compared to theirs. That situation would be intolerable for them, and the arms race would run on at a new and higher level.

So there can be no question about the Russian response to an American ABM—they would be compelled to counter it, and we will be asked in turn to counter their counter-measures, and so on without end.

Another thing that is disturbing about the question of an ABM system is this: When the missile people talk about losing one-half of our population without ABM, or losing something less than that with ABM, they are talking only about the number of people who will die in the first few hours of a nuclear war—the tens of millions who will die in the first great exchange of warheads—they do not tell us about the days that will follow. With our cities burned and twisted, with tens of millions dead, with untold millions of others dying of burns and radiation disease, with millions paralyzed by fear and panic, with the Nation completely demoralized, the enemy missile submarines will rise from the bottom of the sea to deliver the second blow. What will ABM be worth at that point?

So as the debate over this vital issue continues, let us not be caught up in the grotesque numbers game played with human lives and the very life of this earth.

If we succumb to a debate only of alternative levels of destruction, and what degree of damage is acceptable and what is not, then have we not already made the psychological adjustment to the inevitability of nuclear war?

So let us not ask only how many millions of dead are we willing to accept, but whether we must accept any at all.

The question we must decide is not how many lives will ABM save, but what will be its effect on the likelihood of a nuclear war.

The ABM—like every other weapon in the history of man—may be a self-defeating device, it may save millions of lives in a war that might not have occurred save for the existence of the system itself.

Mr. REUSS. Mr. Speaker, I thank the gentlewoman from Hawaii for her contribution.

I would like to yield first to the gentleman from Indiana, who has been on his feet seeking recognition.

Mr. DENNIS. Mr. Speaker, I thank the gentleman from Wisconsin for yielding.

I would like to say that, as I understood the answer addressed by the gentleman to my previous question, at least the first part of it was that we were dealing with an inadequate defense system.

I think I indicated previously I really lacked the technical information on that subject, and I am open-minded on the question. It seems to me that it is basically a technical question on which it should be possible to get a relatively adequate technical answer. If I understand the gentleman, if it were adequate, then he would be for it. That seems to me an appropriate position.

What I would perhaps differ with a little more are some of the suggestions I thought I heard here, that rather than putting the energy and research and effort into answering that question, they should go to certain social endeavors, and so on, which, whatever their virtues, if we had no country here in which to experiment, would not amount to much. Therefore, it seems to me, if we are in accord, if we can get an adequate defense that has to be the first thing.

I should like also to suggest to the gentleman from Wisconsin that an interest in acquiring such a defense, to my thought, is not at all inconsistent with exploring these great questions of war and peace and accommodation. They may have to go hand in hand.

Mr. REUSS. Certainly not. The purpose of the conversation here this afternoon is to bring to bear such information as your colleagues in the House have been able to obtain.

May I say this: When warriors from the war on poverty come before us in the Congress, we feel able to, and do, give them the most rigorous going-over. That is as it should be.

When warriors from the war against crime appear for their appropriations, they likewise are subjected to rigorous analysis.

I see nothing in nature which should insulate the warriors of the military-industrial complex from similarly passing muster before this, the elected body of the people.

Mr. DENNIS. Neither do I.

Mr. REUSS. That is the purpose of this afternoon's debate.

May I say, finally, that I am one of those who are against the ABM, and for two reasons: One is that it appears to me not apt or adequate to do the job it is asserted it will do; namely, bring us true security. And I am against it second, and in conjunction with the first reason, because what this country needs, is to focus some of its financial and scientific power on the great issues of enabling mankind to live the good life here on earth, and that includes massive attacks upon our polluted environment and our degraded cities, a goal which I am sure the gentleman shares.

Mr. BROWN of California. Mr. Speaker, will the gentleman yield?

Mr. REUSS. I yield to the gentleman from California (Mr. BROWN).

Mr. BROWN of California. Mr. Speaker, I also want to commend the gentleman from Wisconsin and the gentleman from California (Mr. COHELAN) for stimulating this very interesting discussion.

It has not yet reached the point of debate, because even despite the contribution of the previous speaker, who raised the question about the Chinese ICBM, the full presentation of the arguments in favor of this system have yet to be made. I think they need to be made.

I have been seeking to understand them, in all good faith, because I do not believe one can successfully rebut any argument unless one understands that argument.

The problem has been, as some of the previous speakers have pointed out, that there has been a little slipperiness with regard to the reasons for this system. I will get into that a little later.

There is also the very real question as to whether some of these arguments can ever be successfully met because at the root—I doubt if we will get to the root this afternoon or even during the course of this session—there are certain articles of faith with regard to the support of or the opposition to the ABM system. There is on the part of the proponents a faith, for example, that the continued proliferation of weapons, the continued development of nuclear power or other nonnuclear power, contributes to the security of this Nation and of the world in today's situation. That faith is hard to reason with. For a Member of Congress or a general who feels that any military expenditure must contribute, just because it is a military expenditure, to the security of this country there is very little that logic can do to persuade him otherwise.

It is my own contention that the continued expansion of military expenditures on the part of this country not only does not contribute to the security of this country but is actually weakening our security in many, many ways. This point has to be stressed over and over again not only in view of what it deprives us of in the way of resources for domestic problems but, in fact, because it may be leading us to a militarily less secure position.

I think there are many sound technical arguments that can be made on this point. Obviously every large-scale military system which has been proposed and which was funded and then failed over the last few years has been fervently supported by the planners in the Pentagon who proposed it, by supporters in the Congress, and by many others. Nevertheless, many of these systems have failed.

Mr. Speaker, underlying the technical arguments, which are too sophisticated for most Members of Congress, there are certain nontechnical arguments which are articles of faith and which are difficult to rationalize. Some of it, also, involves geopolitical considerations that have not yet been expressed. For example, our desire to feel that we have a central or core interest as a nation that extends throughout the world. There are many who honestly believe this. They think our power and leadership role in the world requires that we assert a core interest in almost every part of the world. Others assert this, and there is no arguing with them that you assert it through military means or at least the potential of applying it in these areas for they believe that America's role requires

it. You will not be able to argue with them rationally on sophisticated technical grounds that a particular weapons system will not work or something of that sort.

Mr. Speaker, I want to make one additional point. There has been, of course, a fight over the ABM system that goes back 15 years. There were proponents who sought to have this system deployed during the Eisenhower years. It was rejected by the President at that time on sound grounds. It was sought to be deployed by the Joint Chiefs of Staff and many of their supporters in Congress. The system was actually funded. For several years the Secretary of Defense, Mr. McNamara, refused to spend those funds, which brought him into conflict with certain very able Members of this body. In late 1967 he changed his mind. I am sure you are all familiar with the history. He acted to authorize funding for the initial steps for the light system. Now, it is my contention that the Secretary of Defense did not make this decision because he had suddenly changed his mind with regard to the technical sufficiency of the system. I think—and the evidence, I believe, will support this beyond any question—that he was told to change his mind and he did so with reluctance. The reasons why he was told to change his mind had to do with the political realities of the time. There was then developing a strong attack by many Members of Congress and many political figures, and it was not just confined to the leaders of the opposition party but included some in the Democratic Party. There was the beginning of a large-scale political attack on the wisdom of the President and his subordinate, the Secretary of Defense, for not deploying this system. It was to be made an issue in the 1968 Presidential campaign just as the so-called missile gap was made an issue in the 1960 campaign. All of us recognize that making an issue of this sort bearing directly on the security of our country can be a very telling political thing to do in an election year.

In fact, there are some who ascribe the victory of the late President John Kennedy to his effective use of the "missile gap" issue even though it was admitted by all parties after the election that this was a specious issue—that there was no missile gap.

I think President Johnson feared this particular sort of issue and that he was not about to be trapped into being a victim of this kind of an issue.

I have here in my hand, as the late Senator Joe McCarthy used to say, a little booklet which was put out by the Republican National Committee which says:

The missile defense question. Is L. B. J. right? Russia deploys antimissile network. United States refuses to keep pace.

This lays the groundwork on the part of the Republican committee for this political attack about which I am speaking. At that time the President was a potential candidate for reelection and I think did the smart political thing by pulling the fuse on this issue by telling Secretary of Defense McNamara, in effect, "I do not care what you think about the system. You go ahead and say you are going to deploy it." That is exactly

what happened. I believe this accounts for the fact that we are today fighting the fact that the system is already authorized and funded. And, I believe, as with many other things that happen in this great country, once you make a decision, even though it is a mistake, it is extremely hard to go back and correct it. I hope that will not be the case in this instance because this decision not only has its roots in a generation past, but it has its fruition in a generation yet unborn. If we do not correct it today, we may be storing up trouble, more trouble than we can imagine, for the future.

One last item here. I understand that our distinguished former colleague who is now the present Secretary of Defense, the gentleman from Wisconsin, Mr. Laird, held a press conference last week in which he made certain points. I do not have the text but I have the article which states:

Laird Taking Harder Line on Soviet Military Threat.

In this article—and I do not vouch for its accuracy or authenticity—the present Secretary of Defense makes certain assertions to this effect: “The Soviets are testing a ‘sophisticated new ABM system,’ and that construction of the Galosh ABM around Moscow may have been held up for this development.”

Mr. Laird's statement to the effect that the Soviets are testing a new ABM system came as a surprise here. Further quoting from the article:

There was no mention of this possibility in the annual posture statement submitted to Congress by former Defense Secretary Clark M. Clifford on January 15.

And, here, I want to ask the Secretary if he is prepared to present to us information—facts which indicate that things have changed so much in the last few weeks or if he has acquired additional information—that would indicate a basis for stating that the Soviets are now deploying a new sophisticated ABM system.

He makes a similar statement about the FOBS system. Secretary Laird says that the Soviets are deploying the FOBS system at the present time. On the other hand, just last year, it was stated that we could not differentiate between the FOBS system and other ICBM systems.

Mr. Speaker, I would like to ask Mr. Laird what information he has upon which he has suddenly decided 3 weeks later that the Soviets are deploying the FOBS system.

Third, he said that the Sentinel could act against Soviet sea-launched ballistic missiles—SLEMS—the FOBS, and accidentally launched ICBM's.

This brings in another argument—the capability of defense against sea-launched vehicles which only last year was denied.

I would like to know what new capability of the system would now make it effective against sea-launched systems of any sort.

Fourth, there is this point: Mr. Laird stated that the Soviets are now spending \$3 to every U.S. dollar for strategic defense, exclusive of research and development and for Soviet defense needs.

This makes it look as if the United States is not spending enough on the

ABM system. I have had other information to the effect that a portion of these dollars went into anti-aircraft defense. I would like to ask Mr. Laird what the components of these figures are and if he can in this way justify the position which he has now taken.

It seems to me that this is the type of presentation that we hear all too often just before an appropriation bill is considered for discussion. If the Navy is going to testify for their new antisubmarine warfare vehicles, then just a few days before that we always see a spate of stories about Soviet submarines off our coasts. If the Air Force wants money for their new advanced manned orbiting platform, or whatever it is, they suddenly find out that the Russians have got some new, fantastic, advanced bomber.

Now, I am questioning Secretary Laird as to whether he has been using a little psychology on the Congress.

Mr. YATES. Mr. Speaker, will the gentleman yield at that point so that I may advance some information on that subject?

I too will have some things to say about Mr. Laird when I make my complete statement later on.

Mr. REUSS. I will yield to the gentleman from Illinois for that purpose.

Mr. YATES. I thank the gentleman for yielding.

In my version of the Laird statement before the committee, which appeared in the Chicago Sun-Times last Sunday, it is stated this way, I will say to the gentleman from California:

Laird said that the Soviet Union has “already deployed an ABM system,” but the committee forced him to agree that the system around Moscow is only half completed and that it corresponds roughly to a system the United States abandoned because it was ineffective.

Laird stated this:

If the Soviet Union launched an attack, the United States could retaliate devastatingly. Then he downgraded the U.S. deterrent.

He asserted that the Soviet Union outstrips the United States in megatonnage. But he agreed when Senator STUART SYMINGTON said that although some Russian rockets can carry heavier warheads than some U.S. missiles, the total power of U.S. bombs is greater than the Russian total.

So I am inclined to agree with the gentleman in the conclusion he draws from the remarks that the Secretary made.

Mr. BROWN of California. Mr. Speaker, will the gentleman yield further so that I may continue for one more moment?

Mr. REUSS. I yield further to the gentleman from California.

Mr. BROWN of California. I thank the gentleman very much for giving me this extensive time.

Mr. Speaker, I have a longer statement which I would ask unanimous consent to insert in the Record at this point.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from California?

There was no objection.

Mr. BROWN of California. Mr. Speaker, behind the debate over international ramifications of ABM is a basic, yet gen-

erally ignored, factor: that the United States decided to deploy this grossly questionable system more from internal pressures and fears than from any real external threat.

Intricate political maneuvering played a major role in the go-ahead on ABM. Indeed, such maneuvering closely resembles—and, of course, is related to—the recently renewed missile gap controversy. Whether or not an ABM gap exists—and despite all his purported facts, figures and testimony, Defense Secretary Laird cannot prove that there is such a thing as an “ABM gap,” it is less important than the prospect raised that it “might” exist.

As a perspective, we should look at the history of the ABM concept and how it relates to the recurring “missile gaps.” Contrary to arguments used by many ABM proponents, it was the United States, not Russia, which first undertook extensive anti-missile-system research. That was back in the mid-1950's when Bell Telephone Laboratories made initial studies proposing the Nike-Zeus system.

During the late Eisenhower years, Nike-Zeus won Army approval and tests were made of prototype components. Deployment never was fully implemented, but research efforts continued.

The first missile gap suddenly appeared in 1960, largely fueled by Soviet achievements in space and by American military fears. Though the gap was mainly on paper, it had important impacts on both domestic and foreign affairs. It created a new drive for increased U.S. offensive weapons spending. Soviet reaction to this move came when the Russians announced that a Galosh ABM had been deployed. The arms race began to accelerate.

The Democratic Party used the missile gap in 1960 as a lever in gaining national control. Once in office, the Kennedy administration quietly quashed the gap. As a political tool of the military, it proved significant; in reality the gap was a sham, created by the military and shunted aside by the military when its usefulness was gone. But, it was only shunted aside; as a tool it had proved effective once, and its nature was such that it could be used and reused with frightening effectiveness.

In practical terms, the missile gap uproar resulted in a restructuring of U.S. military objectives. Since 1960 the arms race has sped blindly ahead with few hesitations. The military budget already has bloated to over twice its 1960 level, with most of the increment in sophisticated electronic and missile systems. According to former Defense Secretary Clifford, if there is a missile gap today, the balance tips in our favor with the United States holding at least a 3-to-1 advantage over the Soviet Union.

Measured against the early American ABM efforts and the military philosophy which has led to both the Soviet Union and mainland China being virtually surrounded by nuclear-equipped U.S. forces, Soviet deployment of ABM does not seem unrealistic. But, for the superhawks and militarists, such Soviet deployment became another vehicle for

promoting even more U.S. spending for weapons systems.

By 1967, missile gap tactics once again reappeared, this time in the guise of an ABM gap, and this time forwarded by the Republican Party. A major Republican National Committee background report on the subject summarized the issue this way:

The question of an anti-ballistic missile system for the U.S. has become a major issue as a result of the deployment by Russia of an ABM system.

This question achieves added significance from the progress made by Red China in developing an offensive missile system. Evidence indicates that China may test an ICBM this year and may have ICBMs operational by 1975. But the Chinese are reported to be making faster progress than was anticipated sometime ago by Pentagon analysts. Red China may develop medium-range ballistic missiles this year.

An apparent difference of interpretation exists as to the progress made by Russia in developing an ABM system. President Johnson has said Russia "has begun to place near Moscow a limited anti-missile defense," and this low-key estimate is supported by Defense Secretary McNamara. But other interpretations, based on U.S. Intelligence reports, are that Russia has made substantial progress in laying out a sophisticated "area" defense system which eventually may close off the entire Soviet Union.

The U.S. is developing the Nike-X system as an answer to the Soviet project, but has kept this system in the research stage and has made no move up to this time to deploy the system. There are reports that, despite marked improvements made in recent years in the Nike-X system, it is still a "point" defense system, or less sophisticated than an "area" defense plan.

Deployment of the U.S. system, according to reliable estimates, would require about five years. This is because of the sheer physical difficulty of translating research into actual installations.

Thus the Russians are years ahead of the U.S. in actually laying down a missile defense. How far the Russians are ahead of the U.S. depends on the degree of progress made by them in deploying their system and how long they have been at it.

Evidence was developed four years ago indicating that the Russians had installed anti-missile sites around Leningrad. *The Washington Star* published a report to this effect in March, 1963. If this evidence is well-founded, the Russians may be further advanced in missile defense deployment than the Administration seems willing to believe.

Establishment of an ABM system by the U.S. would cost up to \$40 billion, according to present estimates, depending upon the depth of the defense undertaken. Various reports state that this huge cost would include collateral defense programs, including fallout shelters, improved bombers against a possible bomber attack, better defense against missile-carrying submarines. The cost would be spread over a number of years, since even a "crash" program could not accomplish the entire undertaking hurriedly.

Consideration is being given to a "modest" missile defense, costing from \$3 to \$10 billion. Such a defense would be directed primarily at the Chinese or similar threats not expected to materialize for some years.

However, the Administration for six years now has rejected repeated recommendations that the U.S. move forward with a missile defense. These recommendations, originally made by the Army, in recent years have been supported unanimously by the Joint Chiefs of Staff.

In the face of now acknowledged evidence that the Russians are deploying an ABM system, President Johnson and Secretary Mc-

Namara continue to reject proposals for a similar defense for the U.S.

Instead, the Administration is seeking through negotiations with the Russians to work out some kind of agreement to halt further development of nuclear weapons. Some reports have referred hopefully to a possible "moratorium" on further development of ABM systems.

Soviet Premier Kosygin, at a news conference in London, said that a missile defense would increase international tensions less than an offensive missile system, and was preferable. This was interpreted as indicating the Russians would reject the President's overtures.

for the 1968 fiscal year that he would "re-

The President stated in his budget message consider" his decision not to proceed with a missile defense if efforts to negotiate with the Russians fail. He earmarked \$375 million in the budget to start work on a missile defense if this happened. This reportedly is intended to start work on a defense for U.S. ICBM bases and not cities. There is still no plan in the works to begin production of a defense for cities.

Defense Secretary McNamara for years has cited various reasons for not proceeding with a ballistic missile defense, such as: the system is imperfect, research has not been completed; the system would have to be combined with a highly expensive fallout shelter program. He has leaned strongly to the idea that the best deterrent to nuclear war would be a strong offensive missile or ICBM capability.

Recent reports state that improvements in research on the Nike-X system reveal that a relatively "modest" fallout shelter program would suffice in combination with it, costing half the previous \$5 billion estimate for shelters. This is said to be due to improvements in the Nike-X defense mechanism.

In a "posture" statement issued in January, McNamara argued that spending billions of dollars now to build a missile defense system would buy no real security for this country. His basic theme was that Russia would improve its offensive missile capability to erase any advantage from an ABM system. Conversely, he argued that the U.S. would maintain its ability to inflict unacceptable damage on Russia through its offensive missiles, regardless of Russia's missile defense.

However, apparently reliable reports state that Russia has made vital breakthroughs in developing offensive missiles as well as an ABM system.

Some military men take issue with McNamara, saying the time has come to cut metal for an ABM system. Otherwise, they contend, the situation could lead to nuclear blackmail or to a nuclear war.

The Republican report put the Johnson administration into a quandary. Refusal to deploy ABM became an increasingly hot political issue. But deployment would mean deferring vital domestic programs. And, in that situation, the political forces favoring ABM heavily outweighed dissenting opinions.

Pressures came at many levels. Fear tactics stemming from the Republican background paper grew steadily. Politicians began to sense the immense pork-barrel aspects of ABM. Potential contractors saw ABM as a huge profitmaking endeavor.

Yet, once the decision was made to begin the "thin" ABM deployment, the critics were quickly silenced. The commitment had been made. The "gap" closed again.

Internal forces were crucial in the ABM deployment decision. Now, they are working toward expanding the ABM sys-

tem. And, in the course of that expansion drive, many unsettling points are becoming apparent.

Slowly, but surely, the main objective of ABM is shifting away from that of protecting American cities and American citizens, and is becoming, instead, a watchdog for U.S. military interests. According to the following article from the February 13, 1969, Los Angeles Times, one study already has asked that ABM be limited only as a defense for offensive missile sites:

SENTINEL DEFENSE URGED FOR ICBM SITES ONLY—PRIVATE STUDY ASKS REORIENTATION OF ABM SYSTEM TO OMIT PROTECTION OF CITIES

(By Ted Sell and Ruby Abramson)

WASHINGTON.—A private study being circulated on Capitol Hill urges that the controversial Sentinel antiballistic missile system be reoriented to protect U.S. intercontinental ballistic missile sites rather than cities.

Such a move would completely reverse the strategy conceived when then-Secretary of Defense Robert S. McNamara ordered a go-ahead on Sentinel deployment Sept. 18, 1967.

From sites near the remote ICBM nests in Western states, the ABM network, with its relatively short-range missiles, would offer little protection for population centers—the mission for which the Sentinel system originally was conceived.

An ICBM-oriented ABM system might also fit more closely into the ideas of President Nixon and Defense Secretary Melvin R. Laird. Both have indicated they see an ABM system more in terms of defending against Russian attack than against a lesser Red Chinese threat.

LAIRD HALTS WORK

Work on Sentinel deployment was halted by Laird last week pending a review.

Laird lumped the Sentinel delay decision with similar reviews on six other major weapons systems which the Republicans also inherited from the Democratic Administration. But the Pentagon conceded Wednesday that no orders to halt the other programs have gone out pending completion of the studies.

Identity of the author of the ABM study now circulating cannot be disclosed. But he is known to be an expert on nuclear weapons, and his views are expected to carry substantial weight with legislators who question the value of an ABM system around major cities where some citizen groups have protested.

No action has yet been taken on the study. It is certain to figure in congressional hearings on ABM. The Senate and House Armed Services committees and the House-Senate Committee on Atomic Energy have said they will hold hearings.

Adoption of the ICBM-oriented network would be a victory for figures in Congress, the Administration and the military who have argued all along for an ABM defense against Soviet attack.

KEEPS IT ALIVE

As far as military experts are concerned, a principal benefit at the moment in such a deployment would be to keep a part of the ABM program alive during a period when it otherwise is in trouble with Congress.

It would avoid for the moment the objections raised in major cities, perhaps until residents could be "educated" to overcome resistance, including fears of an accidental explosion of nuclear-tipped missiles. It also would keep scientists, engineers and missilemen in the program and help develop ABM technology.

Pentagon experts on antimissile research and strategy, however, admit that a deployment designed solely to protect ICBMs would be of marginal strategic value—and only then

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in what is considered the most unlikely form of Communist attack.

This would be if an enemy—presumably Russia—chose to launch a limited number of ICBMs not at American cities but at U.S. missile bases as a form of international blackmail, hoping to force the United States to back down on some major issue.

Under past doctrine, any report of enemy warheads heading toward the United States was to have resulted in a massive launch of American ICBMs so that the U.S. missiles could be out of their silos before the enemy warheads streaked into targets.

There would be no question but that World War III had started and that in its first hour a major share of Russia's population and most of its industry would be pulverized.

Even if Russian ICBMs were targeted on American ICBM fields, under this theory, the 15-minute warning time which U.S.-radar would provide would mean that the Soviet nuclear warheads would strike only empty silos.

DIFFERENT ATTACK

On the other hand, the idea of placing the first ABMs around U.S. ICBM fields carries tacit recognition that an altogether different kind of nuclear exchange might occur and that an attack by Russia with only a few missiles might not be the signal for starting World War III.

"If we saw only two or three warheads coming in," one Sentinel project figure said, "what would the President do?"

"Would we go to war?"

"If they were coming at our Minutemen fields, and we were sure we could stop them, it would buy more time for the President to decide what to do—whether to destroy Russia or do something else."

Ironically, U.S. ICBM fields already are the best-protected installations in the nation, in terms of nuclear attack. The 1,000 Minutemen are in hardened underground silos at six bases in Wyoming, Montana, North and South Dakota and Missouri.

DISTANCES A FACTOR

Because of the distances between silos and the concrete hardening, experts calculate the Russians would have to target at least two ICBMs on each Minuteman to have a good chance of destroying it on the ground. With 15 or even fewer minutes warning, the missiles could be fired before they were destroyed.

In terms of a possible Red Chinese attack when China builds ICBMs, however, the ICBM-oriented ABM makes almost no sense, Pentagon leaders said. The Defense Department expects China to have a small ICBM force in mid-1970s.

But with a small ICBM force, according to strategic planners, it would be highly unlikely that China would target on the hardened U.S. missiles in an effort to force the United States to desist from any international move.

It would not be profitable to target scarce ICBMs on hard-to-damage targets, particularly when the American population would lie open in what planners call soft cities.

Moreover, China would be immediately hit by American missiles from Polaris submarines, from shorter range missiles on Okinawa and from bombers in the Pacific, which under current targeting theory are more involved in retaliation against China than the U.S. ICBM fields.

The ICBM-oriented ABM would reverse the order of priority discussed by McNamara in ordering Sentinel deployment.

McNamara argued that it would be cheaper to build more ICBMs than to put ABMs around them. In effect, this accepted some ICBM loss in a sudden strike, but by providing far more ICBMs it was intended to insure that enough survived to maintain the margin needed to inflict wide damage on Russia.

McNamara stressed fears that ABM might come to be considered a potential defense

against Soviet missiles and he marshaled vast expert advice to the effect that such protection was impossible against the type of heavy attack Russia could launch.

The Sentinel system manager, Gen. A. D. Starbird, in a briefing before House Appropriations Committee members confirmed that the second of the three objectives of the authorized ABM system is "to provide an option for defending Minutemen with Sprints."

Traditional interservice competition is now beginning to heat up over ABM. The following stories, from the February 21, 1969, Los Angeles Times and from the February 19, 1969, Washington Evening Star, indicate that both the Air Force and the Navy are asking for ABM systems of their own:

[From the Los Angeles (Calif.) Times, Feb. 21, 1969]

ANTIMISSILE FUNDS SOUGHT BY AIR FORCE (By Ted Sell)

WASHINGTON.—The Air Force is lobbying behind the scenes to get money for its own antiballistic missile system, perhaps in competition with the Army.

The Army has been assigned responsibility for developing and deploying, as well as operating, the controversial Sentinel ABM. But the Air Force would like to get some of the action, too, partly out of concern that continued Army work on ABMs would in time put the Air Force out of the space-defense business it was assigned after it became a separate service.

Air Force officers are seeking about \$15 million to test out their ideas that discarded Minuteman intercontinental ballistic missiles can be modified into ABMs.

APPROACH LEGISLATORS

Air Force officials have privately approached key legislators on the project. The action has the effect of encouraging delays in going ahead with Sentinel on grounds the Air Force may be in the process of developing a better and cheaper substitute.

How successful the Air Force effort will be on Capitol Hill is open to question. The current dispute in Congress is over whether the Army's Sentinel will work and whether it will be worth the \$5 billion to \$10 billion estimated cost.

The Air Force already had started to acquire the expertise it might need to operate an ABM. At Eglin Air Force Base, Fla., it built a \$62 million one-of-a-kind advanced radar installation in 1967. Since then the Air Force has trained technicians to operate the unit in excess of the needs for simply one such radar, while admitting it did not plan to build others.

The Eglin radar is of a type called phased-array, an advanced system far beyond those now needed by the Air Force but similar in principle to those to be used in the Army's Sentinel system.

One of the advantages the Air Force sees in its proposal is that it would use hundreds of Minuteman 1 missiles which otherwise will become surplus as the new, multiwarhead Minuteman 3 missiles are produced.

APPROVED IN 1957

The Minuteman program was approved in 1957 as the first project to use solid-fuel missiles as ICBMs instead of the earlier liquid-fueled Atlas and Titan missiles. Solid-fueled missiles can be stored longer and fired much faster than missiles which have to be fueled with the toxic and corrosive liquid fuels immediately before firing.

By 1963, the Air Force had 800 Minuteman 1 missiles. The figure is down to 600, with the other 400 missiles in the 1,000-rocket force being later model Minuteman 2.

Each of the Minuteman 1 models cost on the order of \$7 million to \$8 million. The Air

Force sees an ABM system based on these weapons as saving much of the cost otherwise involved in buying new Spartan and Sprint missiles.

The major modification involved in the Air Force plan would be to convert guidance systems from the offensive mission—directing the Minuteman in an upward path that would put it on course to plunge onto within about a quarter mile of a target in Russia—to a defensive one.

The defensive mission would involve placing the Minuteman warhead within a close enough distance of an incoming Russian missile to destroy it either with blast effect or a shower of radiation to neutralize the nuclear warhead.

Significantly, the Air Force thinks the guidance might be made accurate enough to get away from a nuclear warhead for the ABM—that conventional explosives might do the job.

[From the Washington (D.C.) Evening Star, Feb. 19, 1969]

PENTAGON EYES SENTINEL AS SUB MISSILE SHIELD

(By Ott Kelly)

The Defense Department is considering a significant new use for an anti-missile system—protection against a possible Soviet submarine missile attack—in its current review of the Sentinel defense system.

Defense Secretary Melvin R. Laird raised the possibility that the components of the Sentinel system might be arranged to provide protection against Soviet submarine-launched missiles for the first time yesterday in a Pentagon press conference.

"I believe . . . the technology that is ready now for deployment and could be deployed if we were to go along with the Johnson-Clifford budget proposal or a modification of the Johnson-Clifford budget proposal, would have certain side-defense capabilities as far as Soviet-launched weapons from submarines or from space platforms, or false launches," Laird said.

Although Defense officials are convinced an effective defense against the Soviet force of nearly 1,000 land-based missiles is impractical now, it was learned that they are considering the possibility that a high degree of protection could be provided against submarine-launched missiles through much of the 1970s.

Defense experts, working under the direction of deputy defense secretary David Packard, are considering about 10 possibilities in their review of the Sentinel system, developed under the Johnson administration.

The possibilities being considered include continued research and development, with no deployment at the present time, plus the number of different ways of deploying the radars and missiles of the Sentinel system. Not under consideration is the so-called "thick" system designed to protect this country against a full-scale Soviet attack, according to Pentagon sources.

But an effective defense against submarine-launched missiles is considered a possibility.

As presently planned, the Sentinel system would have only limited capability to shoot down submarine-launched missiles because it is designed to detect and destroy missiles coming in from the north. But it could be redesigned to look seaward as well, probably at a significant increase in cost.

The Russians now have about 45 submarine-based missile launchers, compared with 656 launchers on American polaris nuclear submarines.

The Soviet Union deployed its first boat comparable to the early Polaris-type American submarines last year and is now estimated to be building from one to two new ballistic submarines a year. Each is capable of carrying 16 missiles.

At this rate of production the Russians could have about 237 launchers on submarines by the mid-1970's, of which about half might be deployed at any one time. If, in the event of war, two or three subs could be destroyed before they launched their missiles, an American missile defense system might well be able to intercept most, if not all of those remaining.

Whether the cost of checkmating the Soviet ballistic missile submarine effort through much of the next decade would be worthwhile when the Russians would still have enough land-based missiles to destroy this country, is debatable.

But American defense planners consider the 41 U.S. Polaris submarines this country's most important means of preventing a nuclear war and would be greatly concerned if the Russians found some way to nullify this force. They could thus decide it would be worth a great deal to prevent a similar Soviet force from becoming an effective threat.

The following three stories from the February 15, 1969, Armed Forces Journal show other directions that ABM supporters are taking in order to expand the system:

TESTIMONY FROM SECRETARY OF DEFENSE

Congress intends to ask Defense Secretary Melvin Laird to advise it on the possibilities of deploying an anti-ballistic missile system that will "shoot down anything."

L. Mendel Rivers, Chairman of the House Armed Services Committee, told the Journal that the committee will ask Laird to testify on the possibilities of:

Using non-nuclear ABM warheads.

The Air Force and Navy participating in ABM defense.

The development and deployment of an entirely new ABM system.

Laird will be asked to testify as part of the hearings on the "412" military procurement authorization bill. The hearings are due to be held in the latter part of March.

Laird recently suspended all ABM site and construction work. The move was coincident with objections from some members of Congress to the location of nuclear ABM warheads near cities.

Rivers explained that prior to the 1967 approval of the Sentinel system, the Armed Services Committee did not "explore every possible alternative for ABM deployment."

"In our eagerness to have an ABM system to defend the country, we just assumed that the problem had been worked out, and that the Sentinel was the best thing we had."

Rivers said that this might not be the case today. "We may have something that will shoot down everything."

He suggested the possibility that the other Services may not have been given an adequate opportunity to participate in the planning of ABM deployment.

If the other Services have a system that will aid the Sentinel, Rivers said, then the mission should be "shared."

"If this is so, then we ought to be told." The country should be defended with the best possible ABM system, the pro-ABM Chairman said.

Rivers strongly emphasized that the Committee action should in no way be interpreted as a criticism of Laird, whom he said will be, in his opinion, a "wonderful Secretary."

SENTINEL ADVANCES (By Walter Andrews)

The Army now is evaluating Sentinel ABM intercept improvements that, if proven feasible, would permit the use of lower-yield nuclear warheads and possibly even the eventual use of conventional warheads.

Industry studies for greatly improving the accuracy of the Sentinel system's Spartan

long-range, ICBM intercept missile are presently being evaluated by the Army's ABMDA (Anti-Ballistic Missile Defense Agency).

The studies are referred to as SIPS (Spartan Improved Performance Study) and center on the high performance third stage.

ABMDA is part of the Army's Office of Research & Development (OORD), and provides long range R&D for the Sentinel system.

Nothing is officially firm on when the improved Spartan missile would be incorporated in the Sentinel system.

However, indications exist that the Army would like to have the improved missile in the Sentinel system sometime during 1974. As presently conceived, the Sentinel is slated for operation in 1971.

The proposed improvements would give the Sentinel a new deployment flexibility, which could conceivably mitigate the effect of recent objections to the location of nuclear ABMs near cities.

Officials pointed out to the JOURNAL, however, that a "massive change" would not be involved.

SIPS AND LOITER

SIPS, if proven, would give the Spartan an in-flight "loiter" or "wait" capability, which could possibly be measured in minutes or seconds.

It would permit the Spartan to be redirected in flight, with all that capability implies in terms of improved accuracy. With a "loiter" capability, the Sentinel would not have to commit a Spartan to intercept until time had been allowed for the atmosphere to separate the real warheads from decoys.

JANUARY PROPOSALS

Since the middle of January, ABMDA has been evaluating studies by Boeing, McDonnell Douglas and Martin Marietta on the feasibility of developing a new third, "loiter" stage for the three-stage Spartan missile.

These funded efforts studied the feasibility of a new, third stage utilizing solid-propellant.

A previous McDonnell Douglas effort considered the possibility of developing a new third stage utilizing liquid rocket technology.

SOLID VERSUS LIQUID

The usual advantage of liquid propulsion over solid is that thrust and missile attitude can be controlled and varied more. Once ignited, it is difficult to control the burning and vary the thrust of a solid rocket. This is done in liquid rocket motors by controlling the flow of fuel or oxidizers.

Solid motors, however, have the strategic advantage of readiness.

The Army therefore is studying methods to vary the pulse and attitude of solid motors.

RFP'S SOON

In the near future, it will request industry proposals for the best method of building such a controllable solid motor. The industry "answer" could involve a near term solution of clustered motors or the development of a new type of solid motor control nozzle.

Officials also told the Journal that technology has been postulated by industry (LTV was mentioned as being in the forefront) of "near-zero miss distances."

In its evaluation of technology the Army would take into consideration work done by the Air Force on satellite intercept by rocket.

The R & D job facing DoD and the Army's ABMDA right now involves feasibility evaluation of these postulated capabilities.

CONVENTIONAL WARHEAD?

Officials said that a successful SIPS effort would permit the utilization of a much lower yield nuclear warhead.

They added that the attainment of accuracies sufficient enough to permit the utilization of conventional pellet or steel rod type warheads "is still farther down the road."

"The people in DoD are as eager as anyone to develop a non-nuclear warhead. It's a goal

we are shooting for—unfortunately it's not easy. The probabilities involve distances of a few feet."

SPARTAN AND SPARTANS

In ABM developmental language, officials told the Journal "the proposed improved third stage would let you wait until the atmosphere has sorted out the ballistic coefficients of all the things involved."

The 1967 approval of the Sentinel system was predicated on the development of a new, longer-range, "exoatmospheric" Spartan missile.

This missile will use the radiation from a high-yield nuclear warhead exploded outside the atmosphere—the so-called "big bang effect"—to intercept and disarm incoming ICBM warheads.

A NEW MISSILE?

Prior to the go-ahead for the Sentinel system, the Spartan was called the Extended Range Zeus (DM15X2), which was developed by McDonnell Douglas.

Except for the public relations/political rationale for renaming the Extended Zeus the Spartan, there would be a good possibility of the improved Spartan being given a new name.

Officials said that such a missile would be combined with the exoatmospheric Spartan for the area defense of the country.

Presumably, the shorter range Sprint ABM interceptor also would find a place in the new scheme.

REMOTE SPRINT

Consideration also has been given to a "Remote Sprint" Sentinel configuration, in which the Sprint missiles would be placed away from the detecting Perimeter Acquisition Radars (PAR) and the tracking Missile Site Radars (MSR).

The benefit here would be that such a Sprint configuration would better utilize the "reach" of the longer range radars.

When positioned close to the radars, the short range Sprint missiles only utilize a fraction of the radar's range.

Officials told the JOURNAL that Remote Sprint is considered a potential improvement. However, no decision has been made as yet, they said.

The obvious trade-offs are the cost of new site acquisition and additional command and control installations.

In a possible new Sentinel configuration, the exoatmospheric Spartan missiles containing the high-yield nuclear warheads could be positioned away from cities.

The SIPS version of the Spartan could be emplaced nearer the cities for the "area defense" of the population centers.

The Sprints, remote or otherwise, could be used for the defense of radar sites and possibly ICBM installations.

SABMIS AND SENTINEL

"Proven technically feasible" are the words used by officials to describe the present status of the Navy's Seaborne Anti-Ballistic Missile Intercept System (SABMIS).

Officials told the Journal that concept formulation of the system is "completed right now" as far as the technical feasibility of the system is concerned.

A SABMIS would be a good system for intercepting enemy ICBMs in the boost and mid-course phase, officials said. As such it would complement the Army's Sentinel system.

SABMIS presently is funded at a low level, officials said, but a lot depends on DoD decisions made during the next month.

Industry feasibility studies on SABMIS were completed last year. Companies participating were: Hughes, PRC, General Electric, Northrop Nortronics, Sperry, Boeing, McDonnell Douglas, Martin Marietta and Raytheon.

Along with the superhawks and militarists there has been a third powerful ally in the recent campaign for an expanding ABM—the military-industrial complex, that great aggregation of military, corporate, and lobby power that President Eisenhower warned us about, but which too many persons have shrugged off as being nonexistent or unimportant.

By this time we should not be shocked by the abject profiteering and correspondingly low quality production which has marked the armaments industry over the past decade. The complex has been able to call all the shots without much anxiety over being turned down.

I do not expect ABM to be much different from past weapons systems. Once again, I foresee high profit margins, poor reliability, and early obsolescence. Seymour M. Hersh, in his article, "The ABM Pork Barrel," published in the January 1968 War/Peace Report, presents a dismal picture of the relationship between the military-industrial complex and the decision to deploy ABM:

THE GREAT ABM PORK BARREL
(By Seymour M. Hersh)

President Johnson's decision to begin deployment of the Chinese-oriented Nike X antiballistic missile defense system is the biggest thing that's happened to the electronics industry since color television. Beyond that, its impact drops off sharply.

Nike X won't stop the arms race, won't hinder Russian second-strike capability, won't prevent a Chinese nuclear attack, won't protect our allies, won't add to the U.S. deterrent, won't protect U.S. civilians—and probably won't work.

The presidential decision to build the ABM was announced by Defense Secretary Robert S. McNamara last September 18, but there is some evidence that it wasn't fresh news to the electronics industry and the brokers of Wall Street. Between July 1 and September 30 last year (the third quarter), 75 mutual funds sold other holdings and invested nearly \$90 million in electronic stock. Ten of the mutuals bought more than 250,000 shares of General Electric, expected to be one of the big contractors for one of the sophisticated radar units of the Nike X (renamed the Sentinel system by the Pentagon last winter). All told, 15,000 companies are expected to profit from the deployment of the Nike X; 12,000 of these are small business firms ("Thin Nike, Fat Orders," said one trade magazine headline). A partial list of the main contractors sounds like a Who's Who of the military-industrial complex: Douglas Aircraft, General Electric, Bell Telephone, Martin-Orlando, Raytheon, Western Electric, Thokol Chemical, Sperry Rand, Avco, Burroughs, Control Data, Westinghouse, General Dynamics, I.T.&T., Lockheed and Aerojet.

One brokerage house described the then-pending Nike X deployment last summer "as the day they will shake the money tree for electronic companies. All will stand to benefit. The demands will be too high not to be felt by all in the industry." Based on Pentagon estimates, it's probable that three contractors—Douglas, Martin and Raytheon—each will receive more than \$600 million in Nike X funds over the next five years. General Electric could get nearly \$400 million. All play major roles in the system. Western Electric, another prime contractor, has received more than \$1.5 billion since 1963 for its role in developing the missile system.

Is there really a military-industrial complex? A reporter for the *National Observer*, the weekly Dow-Jones newspaper, randomly surveyed six leading defense contractors re-

cently and found former Pentagon officials and officers in all. "One office said its 30-man staff included only two Pentagon retirees," the newspaper said in its November 6, 1967, issue. "Further questioning brought out that one—a two-star general—was the office director. He handles relations with the Pentagon. The other, a consultant, is a former chairman of the Joint Chiefs of Staff." An oft-cited 1959 congressional survey found more than 1,400 ex-officers above the rank of major working for the top 100 defense contractors, including 261 generals and admirals. The survey, one index of the relationship between big business and the military, sorely needs updating.

MEANS BREAD AND JOBS

Frederic W. Collins noted in *The New Republic* last year that as few as 29 of the major contractors for the Nike X employ as many as one million persons in 300 plants located in 172 congressional districts in 42 states. To those 172 congressmen (and the 84 senators also affected) Nike X is a pork-barrel issue—bread and jobs for constituents. Maybe that helps explain why McNamara was not able to convince Congress of the folly of a Russian-oriented ABM (antiballistic missile defense) during his many appearances before committees in past years.

Critical to that failure has been the administration's lack of success in persuading Congress that the Russian deployment of an ABM system around Moscow and elsewhere poses no threat to U.S. security. In his speech announcing U.S. ABM deployment, McNamara noted that "the Soviets are now deploying an antiballistic missile system. If we react to this deployment intelligently," he said, "we have no reason for alarm. The system does not impose any threat to our ability to penetrate and inflict massive and unacceptable damage on the Soviet Union. In other words, it does not presently affect in any significant manner our assured destruction capability" because of the growing U.S. nuclear ICBM (intercontinental ballistic missile) arsenal.

McNamara's congressional sales job was spelled out nearly four years ago in the *Bulletin of the Atomic Scientists* by Freeman J. Dyson, a physicist at the Institute for Advanced Study: "The crucial problem that remains is to convince the American Congress and public that Soviet ABM systems are not necessarily a deadly threat. The American people must become accustomed to the idea that they may be better off without an ABM system, even if the Soviet people believe they are better off with one."

This sort of reasoning, however persuasively presented by McNamara and others, leaves the military buffs in Congress cold. Sen. Henry M. Jackson, Washington Democrat, in announcing a hearing on the Nike X last fall, declared that "an ABM defense in Soviet hands lends itself superbly to bluffing and blackmail. Would an undefended U.S. maintain its resolve to act strongly if a defended U.S.S.R. appeared willing to risk a move against Berlin or any part of Western Europe?" Never mind that McNamara has repeatedly said the answer is Yes, Jackson's answer, as he told the Senate last November 30, is that the United States should begin building a new generation of ICBMs and nuclear submarines "to maintain political stability" in the world.

Another example of the attitude toward the Nike X on the part of that small, powerful clique who run the Senate and House Armed Service Committees came from Sen. Strom Thurmond, South Carolina Republican, shortly after McNamara's speech. Thurmond, a two-star general in the Army Reserve, wrote in the October issue of *Data Magazine* that "the true significance of the recent decision to deploy the ABM in the United States is the production time advantage that we shall have in any future confrontation with the real enemy—the

Soviet Union. We will have completed the preproduction engineering, will have production lines established and will have some units installed. If we decide later that the 'thin' missile defense has to be thickened, American industry, that once produced miraculous numbers of Liberty Ships, planes and tanks, can gear up for mass production of ABM components as well.

The generals, the Congress and big business all stick together from thin to thick.

GOING TO THE PEOPLE

Playing politics with the ABM is not only a congressional game. During the savage infighting between McNamara and the Joint Chiefs prior to the Nike X go-ahead, both took the issue, in effect, to the people. The Joint Chiefs drew up a list of 50 cities late in 1965 that would be given special protection under the ABM system envisioned; the list was presented to congressional committees. Under the Joint Chiefs' recommendations, a thick defense of long-range Spartan area defense missiles would be installed to protect the United States, including Hawaii and Alaska, with 50 cities given the added protection of short-range Sprint antiballistic missiles. The military leaders planned to press for the immediate protection of 25 cities at a total cost of \$10 billion. On the list of the first 25 cities to get protection was Charleston, S.C., home of Rep. L. Mendel Rivers, chairman of the House Armed Services Committee and advocate of everything military. McNamara argued vigorously against the Joint Chiefs' approach, telling them they would never be able to draw the line between 50 cities and the rest of the nation. To prove it, he eventually had some details of the top-secret plan leaked to his favorite Pentagon reporter, Richard Fryklund of the *Washington Star* (now a deputy assistant secretary of defense for public affairs). The resulting protests from the cities left off the list convinced the Joint Chiefs that such a strategy would be politically unfeasible.

After this clash, all signs pointed toward the deployment of the light Chinese-oriented ABM costing under \$10 billion. In the spring of 1967 the usually reliable DMS market intelligence report, a privately produced survey of future Pentagon research and development prospects, noted that the Defense Department's "procurement request for fiscal year 1968 is believed to provide for the initial funding of a \$4 billion to \$7 billion system over five years." DMS, which is circulated among 3,500 Pentagon contractors, is staffed by many former Defense Intelligence Agency (D.I.A.) officers. In his press conference of May 18, 1967, McNamara carefully left the thin ABM door open. After explaining once again that any U.S. ABM system would not be capable of stopping a Soviet missile attack but would stop a Chinese ICBM attack, the defense chief testily added: "I frequently read in the press discussions of antiballistic missile systems which fail to distinguish between these two types of systems and which, therefore, are quite misleading in indicating the capability that we have for protecting our people."

McNamara then was asked if "the fact that we are asking the Russians to agree to a limitation of ABMs leaves open clearly the possibility that both sides could deploy this limited system." "Yes, I think so," he answered. "We haven't foreclosed any action by our desire to engage in discussions with the Soviet Union, but I think it definitely does leave open the possibility."

Some sophisticated analysts saw other signs of a favorable Nike X decision. A brokerage house that closely watched the Nike X debate reported in mid-1967 that research funding for the system was remaining stable but added, however, that "all may not be as it seems." It noted that "work on the new Spartan missile appears to be accelerating" and that "radar efforts have centered around

the development and construction of a single radar system for testing. Once the initial model is fully completed and moved into test stages, funding will drop off except for modifications and testing activities. If the system is deployed, the contracting companies will then be characteristically told to go back and build 25-50 more just like the first one." The report concluded by urging investors to plow funds into the electronic companies and, indeed, most electronics stocks have gained substantially since September.

A few weeks after the Nike X decision was announced, the *Washington Post* added an illuminating, if little noted, sidelight. It said it had learned that the United States originally was headed toward a December announcement of the thin ABM. President Johnson, faced with strong congressional opposition on all fronts, the newspaper said, "suddenly accelerated the ABM timetable in an effort to ease the political pressures on him. Among the president's multiple objectives," the *Post* said, was a desire to outflank zealous pro-ABM forces in hearings planned by Senator Jackson, plus an attempt to solicit support for the president's stymied tax increase proposal from pro-ABM members of Congress." It should be noted that, according to the *Post*, political pressure was responsible only for moving up the date of the announcement—and nothing more.

When McNamara quit his Pentagon job in November and announced he would move early this year to the World Bank, the *New York Times* said that some sources believed a key factor was his disagreement with Johnson over deployment of the ABM. The newspaper added that McNamara's September 18 speech initially called for a restatement of his policy against deployment of the antiballistic missile defense system but had been rewritten a few days earlier by presidential fiat. The evidence tends to suggest, however, that McNamara's basic dispute was not over the deployment per se of an ABM defense, but over what kind of a defense was necessary and how much to spend on it. By mid-August he was circulating to key aides in the Pentagon a draft recommendation to the president calling for deployment of the thin Nike X. His private beliefs notwithstanding, it seems significant that publicly McNamara did nothing to discourage the possibility of a thin Nike X deployment.

A few days before the initial announcement of the deployment of the thin Nike X, the Pentagon's public relations office put out an information sheet for the press. It included a long series of hypothetical questions and answers and as could happen only in the Pentagon, even its own questions were not answered. For example:

"Q. Can this system be used as a first-step toward a large-scale system?"

"A. There is no plan or intention to expand the system."

In announcing the go-ahead for the Nike X, McNamara explained there was a possibility that in the next decade China might "become so incautious as to attempt a nuclear attack on the United States or our allies." Since it is the job of strategic planners to always "take into consideration even the possible irrational behavior of potential adversaries," he said, "there are marginal grounds [my emphasis] for concluding that a light deployment of U.S. ABMs against this possibility is prudent."

In effect, the secretary was postulating that the multi-megaton U.S. deterrent was capable only of preventing a Soviet missile attack and not one from China, a rationale described dryly by one expert as "indeed remarkable." A more Soviet-oriented reason for the ABM deployment, however, was given by McNamara in a *Life* magazine interview shortly after the Nike X decision was announced: "Our deployment isn't designed to protect the cities of America against a Soviet strategic attack, and thus it in no way threatens

the Soviet ability to deter an American attack. The fact is, however, that they [the Russians] have been building up their strategic missile forces. We had no choice but to take additional steps to maintain the adequacy of our own deterrent. We considered a number of alternatives—adding more missiles, a new manned bomber, or even a new strategic missile system. We reached the conclusion that one of the most effective steps we could take, and the one least likely to force the Soviets into a counter-reaction, was the deployment of an ABM system which would protect our Minuteman [ICBM] sites, so that our own deterrent is not diminished."

During the hearings last November on the Nike X before Jackson's Military Applications Subcommittee of the Joint Atomic Energy Committee, this significant exchange took place between John S. Foster, Jr., director of Pentagon research, and Rep. Craig Hosmer, California Republican:

"FOSTER. The thin Nike X provides a cover over all of the United States against ICBMs launched from China . . . the second capability is being able to add additional Sprints and radar necessary in order to provide still additional coverage of the Minuteman silos against attempts by the Soviet Union to knock out those silos.

"HOSMER. That confirms the suspicion, of some people at least, that this is really the first stage of an anti-Soviet ABM as well as an anti-Chinese ABM. Is that right?"

"FOSTER. It is certainly not . . . This is not being deployed as a building block for some heavier system."

Many sources disagree flatly with Foster's assessment. In a special issue on the Nike X system last October, the authoritative magazine *Aviation Week & Space Technology* noted: "A preponderance of opinion in Washington, however, appears to be that, once a thin defense is in place, the American predisposition to go 'all-out,' coupled with the Nike X building-block concept, makes it almost inevitable that the system will harden and grow." Opinion aside, the incredibly complex radars for the Nike X (estimated to amount to between two-thirds and three-fourths of the total cost) known as Perimeter Acquisition Radar (PAR) and the Missile-Site Radar (MSR) have been developed in close coordination with two larger and even more technically sophisticated radars, known as the Multifunction Array Radar (MAR) and a Tactical MAR (TACMAR). The more complex radars will not be included in the thin system largely because of their cost but will continue to be developed by the Pentagon. If a decision is made to install a Russian-oriented heavy ABM, the more elaborate radars are capable of easily fitting along with PAR and MSR into the larger system. As one commentator has said, the light ABM defense would be "like pregnancy, hard to stop before full term." The line between Nike X/ No Nike X is much more sharply fixed than the division between thin Nike X/ thick Nike X.

J. I. Coffey, a former Army officer writing in *Foreign Affairs* months before the ABM decision was announced, argued similarly: ". . . as China's technology and industrial capacity grow, so also will the sophistication of its weapons. To counter this, we will probably find it necessary to extend, to deepen, and perhaps to improve our antiballistic missile system and to build up our air defense and antisubmarine warfare forces. Thus, whatever the initial form of an ABM system designed for use against Communist China, it will ultimately become either largely ineffective or little different from that required to defend against Soviet forces. In the long run, therefore, ballistic missile defenses capable of coping with a Chinese attack are likely to increase markedly our capability to limit damage by Soviet strategic forces—a point which the U.S.S.R. is not likely to miss."

Ironically, as many experts have pointed out, the Nike X offers no assurance of doing its primary job—defending the continental United States from a Chinese nuclear attack. Who's to say China won't forego the ICBMs, if it irrationally decides to strike. It could use airplanes launched from a ship or submarines capable of firing nuclear-tipped torpedoes or medium-range missiles.

COSTS UNDERESTIMATED

There is considerable evidence that McNamara has sharply underestimated the cost of deploying the thin Nike X. Dr. Charles M. Herzfeld, former director of the Pentagon's Advanced Research Projects Agency (ARPA), told a House Defense Appropriations subcommittee last March he would favor deployment of a thin ballistic missile defense—"a high altitude system to cover most of the United States, and in particular to cover our ballistic missile sites"—in short, the Nike X. Asked for a cost estimate, Herzfeld answered: "I think one could do reasonably well with \$10 billion, maybe \$12 or \$14 billion. If you stretch it over a period of five years, it isn't all that much money, really."

Cost for the radars, computers and the necessary underground sites for the Nike X is estimated at \$3.5 billion, with an additional \$1.5 billion earmarked for the missiles and their silos. Annual operating costs, an expense rarely mentioned in the daily press, will total about \$500 million annually for the system, with another \$1 billion needed to purchase the nuclear warheads for the Spartan and Sprint missiles. Total research and development costs in connection with the system are expected to reach about \$500 million a year. One electronics trade magazine wrote last October that "the figure of \$5 billion spread over the next five to six years has appeared frequently of late, but it ignores annual support costs and research, engineering and facility costs that will push the figure to a more realistic \$11 billion by 1973." It further should be added that roughly \$4 billion has been spent on the Nike X and its precursor, the Nike Zeus, since 1957—this is more than was spent on the entire Manhattan Project in World War II. The Pentagon has acknowledged only that the \$5 billion estimate does not include operating costs.

Another usually unmentioned Nike X cost factor involves the equipment and manpower needed to coordinate the new antimissile defense with existing defense systems, such as Over The Horizon Radar (OTHR) and the Ballistic Missile Early Warning System (BMEWS). DMS reports that the deployment of the Nike X "would not supersede BMEWS since it would still be used to provide early warning against manned bombers." OTHR could help detect a missile launched from a Fractional Orbiting Bombardment System (FOBS), which McNamara announced last November is under development by the Russians. (A FOBS missile is fired into a very low orbit about 100 miles above the earth, but could be dropped onto its target before the first orbit is completed. The Nike X would not be capable of stopping a determined FOBS missile attack, Mr. McNamara said.) It is not known how much money will be needed to interface the Nike X with the older warning systems.

One brokerage house experienced in large-scale federal research projects has estimated for its clients that "the maximum expenditure levels for any one year will be \$2 billion" for the Nike X. That figure might be reached by 1969, a private analysis said, adding that "1970 would almost certainly reach the \$2 billion mark. The NASA (National Aeronautics and Space Administration) budget and the trend of space expenditures have taught us all a lesson in the unpredictability of federal outlays in specific programs," the analysis concluded.

McNamara himself has hedged his prediction, telling the House Armed Services Com-

mittee last March 2, for example, that the Nike X costs, "if past experience is any guide, may be understated by 50 to 100 per cent . . ."

Obsolescence is another potential cost factor. In an article for *Look* last fall, Dr. Jerome B. Wiesner, former science adviser to Presidents Kennedy and Johnson, flatly declared that he was "certain that the system we are now planning will be regarded as ineffective before it is installed." There is much evidence to support this. Now under development by ARPA is a missile booster called Hibex that accelerates many times faster than Sprint. The Hibex, slightly smaller than the Sprint, is designed to be fired directly from its underground silos, while the Sprint is ejected by a gas-propelled piston and does not ignite until it is above ground. Hibex could be the short-range interceptor of the future. In addition, the Army now is studying the possibility of developing an improved third stage for the Spartan missile that would enable it to "loiter" in space, and thus increase its capability to attack incoming ICBMs. With this added capability, the Spartan would not have to be targeted at the time of launching, which should be a major help in sorting out decoys among incoming missiles.

There are other potential costs. The Johnson administration's responsiveness to the Army ABM proposals has encouraged the Navy and Air Force to seek a piece of the high-priced ABM pie. The Navy has been pressing for a sea-based antiballistic missile system (codenamed SABMIS) that would theoretically make the Nike X's job easier by knocking down enemy ICBMs before they reached the skies over the United States. The Air Force is reported to be taking another look at some of its earlier ABM proposals, including the use of such airplanes as the giant Lockheed C5A transport as a launching platform for antiballistic missiles. Studies also are under way of the concept of using satellites to aid in the detection and discrimination of ICBM targets. ARPA further has told Congress it is investigating the use of lasers as possible missile kill mechanisms.

AN AMBITIOUS SYSTEM

The Nike X is an ambitious system. It requires radars and computers to detect and track a decoy-accompanied warhead capable of traveling more than 15,000 miles per hour, and then to guide a Spartan missile to an intercept point in outer space for area defense. It requires similar capabilities for the Sprint missile, which, is designed to destroy warheads after they re-enter the earth's atmosphere.

Electronic reliability will be a major factor in the success or failure of the Nike X. If a typical Nike X radar or computer uses 200,000 microcircuits, the Army expects it to operate for approximately 1,000 hours before one circuit fails. "If home television receivers had this reliability level," *Aviation Week* says, "a lone TV repairman operating in a city of 150,000 persons would go bankrupt, because he could expect only a single service call over an entire year, assuming that each set was operated for an average of three hours every day."

The system, expected to be in operation by the early 1970s, has four main components:

Spartan—An advanced solid-fuel three-stage version of the 5,000 m.p.h. Zeus missile that is believed capable of traveling 600 miles into the atmosphere with a large nuclear warhead. It is now under development by Douglas Aircraft, but has yet to undergo testing. Estimated per unit cost is \$1.25 million, but no reliable estimate of annual operation costs is available.

Sprint—A smaller high acceleration solid-fuel missile that will be capable of meeting targets 25 miles away in about five seconds. Built by Martin-Orlando, it is now undergoing tests. Like the Spartan, the Sprints will be housed in vertical missile silos. Esti-

mated unit cost is \$1 million, with annual operating costs set at about \$700,000. Both the Spartan and the Sprint are designed to destroy or immobilize enemy missiles by thermal radiation, particle radiation, high-intensity x-rays or combinations of these effects. Pentagon officials have indicated that the nuclear weapons used in both weapons have low fallout, but the low-level use of Sprint could present radiation hazards. About 1,100 of the missiles will be produced, according to DMS, with Sprints accounting for 700-800.

Missile Site Radar (MSR)—A relatively small radar complex basically designed to track targets and control the Sprint interceptor missile, although it will have some area defense (Spartan) responsibilities. To be built underground along with the missile silos, a prototype MSR is now being constructed at the Nike X test site on Kwajalein Atoll in the Western Test Range. It should be operational by the end of this year. (Along with the Kwajalein site, Nike X tests are being conducted at Ascension Island in the Eastern Test Range and at the White Sands, N.M., missile range. By December, working models of the radars are expected to be available and the system will begin testing in stages, starting with the Sprint and MSR.) About 14 of the MSR radars are expected to be incorporated into the thin Nike X.

Perimeter Acquisition Radar (PAR)—A sophisticated phased-array radar designed for very long-range search (up to 1,000 miles) and the targeting functions needed for the Spartan interceptor missile. While Par is under development, the initial Nike X tests at Kwajalein will be conducted with simulators. According to DMS, about six PARs will be installed near the Canadian border at an average cost of \$85 million each. (Some critics have claimed that if an enemy missile ever is engaged by the Nike X system, the contact and explosion probably will take place over Canada.) Both PAR and MSR are believed to be capable of picking up reliable target information when the enemy missiles climb to 10-15 degrees above the horizon. Aided by Univac digital computers, the radars will be able to target search, identify, track and communicate data automatically. (The heavy costs for this kind of equipment have produced a side benefit for the major contractors: the Pentagon is urging them to automate their electronic component production lines in an effort to trim costs. The industry has been slow to introduce automation.)

HOW NIKE X WORKS

The Nike X system works this way: Once a potential target is picked up by the radars, the computers must determine if it is a missile or merely a satellite or meteorite by tracking the object long enough to determine its trajectory. Should more targets appear, the computers also must assess whether they are warheads that should be tracked or decoys that can be safely ignored. This is the crux of the Nike X system. If the number of targets threatens to saturate the radars, the computer must decide which should be handled on the highest priority. If the potential target is maneuvering and not following a simple trajectory, the computer will need more time to predict its future operations.

Aviation Week has noted: "The operation of an antiballistic phased-array radar has been compared to man trying to juggle several golf balls, a couple of basketballs and one baseball but simultaneously. Timing is critical. The critically brief duration of a mass missile attack can tolerate no computer malfunction, and it leaves no time for human trouble-shooting and repair."

Many experts simply don't believe the Nike X can work without massive testing, which would violate the 1963 test ban treaty. Most notable of these is Wiesner. In his *Look* article, the scientist argued that "few competent people expect the extremely complex

ABM system to work the first time; yet it must have any effect. There will always remain a big chance that even if the system is working as designed, it will not intercept all of the enemy missiles. . . . Remember that if a single enemy nuclear weapon leaks through the defense to a city, the city will be destroyed."

A team of scientists headed by Dr. Ralph E. Lapp and Leonard S. Rodberg also has concluded that the Nike X could not be immediately effective. Writing in *Science and Citizen* last year, they noted that it is not unusual for complex weapons to do poorly in battle. Specifically cited was the low rate of kill of the Russian-built surface-to-air (SAM) missiles used against American fighter planes in North Vietnam.

There already have been some ominous reports of production complications. The Martin-Orlando company is said to be faced with a number of operational and guidance problems due to the extremely high velocity of the Sprint missile. *Electronic Design* magazine last October reported: "The rocket's skin temperatures are reported to soar higher than those in any other rocket. This has raised serious thermal problems with the on-board electronics," although the magazine noted that the firm's engineers claim to have solved them.

In addition, *Aviation Week* has reported that the specially built computers for the Nike X (expected to be able to handle more than four million instructions a second with a single processor) are creating staggering programming problems. The magazine notes that "there is relatively little experience in programming for missile intercept and discrimination, especially against massive attacks involving decoys and other countermeasures. . . . This does not mean that the programming cannot be solved," the magazine said, but it will take more time and more money than many experts had expected.

These kinds of problems apparently prompted Sen. Joseph Clark, Pennsylvania Democrat, a harsh critic of the ABM, to tell the Senate last July 27 that it "should know that the United States has not yet experimented with using the Sprint, the Spartan, and the radars together and probably will not be capable of doing so for at least two years. How can we consider deploying, at a cost of some \$5 billion, a system that has never been fully tested? I personally think that such an expenditure is outrageous, considering the crying need that this country has for funds for domestic programs to alleviate poverty, to provide adequate education for our youth, to rebuild our cities, to feed the hungry and to eliminate air and water pollution."

AN ABM FOR INDIA?

In his May, 1967, news conference, McNamara was asked this question: "If we employed an ABM system for defense against a Chinese threat, do you think a country such as India would lay claim to the need for such a system?"

He gave this answer: "Whether or not India would or would not wish to deploy an antiballistic missile system to protect itself against a potential attack from Red China, assuming we did, I can't say. My guess is that they would."

The defense chief had a different analysis in his October interview with *Life*. Asked if the U.S. deployment of the ABM wasn't a step in the direction away from a nonproliferation treaty, McNamara replied: "One of the assumptions inherent in negotiations of the nonproliferation treaty is that the real deterrent to China's use of nuclear weapons is the overwhelming nuclear capability of the United States. . . . China's leaders know that an attempt to attack the United States would invite the utter devastation of urban China. Our allies know that the same constraints that prevent China from attacking the United States prevent China from attacking

them. . . . We firmly believe that it would serve no useful purpose for nations in Asia to acquire nuclear weapons of their own with all the financial burden . . . that would entail."

India, which is well within range of China's present stock of intermediate-range ballistic missiles, thus has its choice. On one hand, it can go along with the belief that the United States deterrent against China should suffice (although it must be difficult to understand why the United States itself doesn't trust its own deterrent—hence the ABM), or it can begin laying out funds for missile defense. Pressure has been growing inside the country for the latter move. The United States, by in effect voiding its own arguments for nonproliferation, has escalated the arms race.

Suspicious allies, and China, for that matter, can question whether the U.S. goal in deploying the ABM is to eliminate a potential source of what some senators call "nuclear blackmail" in Asia and the subcontinent. Instead, the ABM may assure American military planners of free and easy intervention in any part of the world (at least until the 1980s, when China is expected to develop ICBMs with sophisticated penetration devices—a development Wiesner believes can be accomplished with the aid of reports available in American aerospace journals).

McNamara's theory, as outlined in his San Francisco speech, is that the light "Chinese-oriented" ABM poses no challenge to Russia, hence that country should not react by increasing its offensive forces. That reasoning amounts to asking the other fellow to exercise restraints that we are not willing to accept ourselves. Although it is still unclear whether Russia is building a full-scale ABM defense around Moscow and other cities, the United States already has reacted to the Soviet move by initiating steps to increase its offensive striking force. A \$2 billion program to replace the submarine-based Polaris missiles with larger Poseidons capable of carrying improved penetration aids was begun last year, along with a massive program of adding multiple warheads (MIRV) to the new, improved Minuteman III.

RESPONDING IN TURN

Few of America's European allies believe the United States will stop at the thin system, although McNamara warned in his speech that "The so-called heavy ABM shield . . . would in effect be no adequate shield at all against a Soviet attack, but rather a strong inducement for the Soviets to vastly increase their own offensive forces. That, as I have pointed out, would make it necessary for us to respond in turn—and so the arms race would rush hopelessly on to no sensible purpose on either side." Yet France immediately seized on the U.S. ABM announcement to urge once again that a separate French nuclear force is more necessary than ever. "Some Frenchmen," Don Louchheim of the *Washington Post* reported last October, "have even suggested that by creating an antimissile barrier in the United States, Washington has made Europe more vulnerable, as a common enemy might prefer to send its nuclear weapons toward undefended targets."

Victor Zorza of the *Manchester Guardian*, considered a leading expert on Russian military affairs, has reported that the U.S. ABM will aid those Russians who are eager to get a larger share of the nation's budget for military spending. Noting also that there is no proof that Russia has decided to go ahead with a full-fledged ABM system, Zorza wrote in the September 20 *Washington Post* that the Soviet military-political lobby already has won increased allotments of steel for military use. The question being debated now, he added, is whether the United States can somehow allay the misgivings McNamara's announcement "is bound to have aroused in the Kremlin."

As Coffey presciently wrote in *Foreign Affairs*, "At the very least . . . the deployment of antiballistic missiles would in all probability lead to a hiatus in arms control negotiations, while both sides tried out their new weapons, decided on countermeasures to the other's deployment, and re-established an effective and acceptable strategic balance. It could mean the loss of any chance for an early agreement on a comprehensive test ban and on the nonproliferation of nuclear weapons, leading to decisions by countries such as Italy or India to proceed with their own nuclear weapons programs. And it could lead to a new arms race with the U.S.S.R."

Even more significant to some will be the increased pressure to break or void the existing nuclear test ban treaty because of the need to test the ABM in the atmosphere. "The developers of the ABM system will soon be telling us that they cannot assure its effectiveness without nuclear tests in the atmosphere," Wiesner glumly wrote in *Look*. "The pressure on the president to renounce the treaty in the interest of national security and protecting our multimillion dollar investment will be overwhelming."

Major strategic mistakes are not unknown to McNamara. In his September 18 speech, the defense chief revealed—apparently for the first time—that he had seriously miscalculated soon after taking office in 1961 (a major election factor being Kennedy's charge of a "missile gap") and helped promote the recent Russian build-up. Shortly after taking office, Kennedy sent Congress a supplementary military budget request for \$1.94 billion to bolster the forces above the Eisenhower levels for fiscal 1962; included was \$1.48 billion earmarked for strategic deterrent forces, largely Polaris missile submarines.

"In 1961, when I became secretary of defense," McNamara explained, "the Soviet Union possessed a very small operational arsenal of intercontinental missiles. However, they did possess the technology and industrial capability to enlarge that arsenal very substantially over the succeeding several years. Now, we had no evidence that the Soviets did in fact plan to fully use that capability."

"Since we could not be certain of Soviet intentions—since we could not be sure that they would not undertake a massive build-up—we had to insure against such an eventuality by undertaking ourselves a major build-up of the Minuteman and Polaris forces," McNamara added. "Thus, in the course of hedging against what was then only a theoretically possible Soviet build-up, we took decisions which have resulted in our current superiority in numbers of warheads and deliverable megatons. But the blunt fact remains that if we had more accurate information about planned Soviet strategic forces, we simply would not have needed to build as large a nuclear arsenal as we have today." (My italics.)

It seems no one is immune from making the same mistake twice.

While the ABM certainly represents a profitable splurge for the military-industrial complex, for the rest of the economy it is a drag. Over the past 3 years, increasing resource demands by the military have been a leading factor in the steady rise in wholesale and consumer prices. Further ABM deployment will exaggerate these serious inflationary pressures. And we must remember that each marginal dollar allocated to ABM is one less dollar for better education, for more livable cities, for a cleaner environment, for an equitable and just society.

Of course the ABM is not the only piece of fat in the swollen defense budget, but it does stand out as an overly visible example of foolish spending. Both last year

and earlier in this congressional session, I have argued that the defense budget must be cut. I have pointed out where the highly reputable Congressional Quarterly has shown areas in which over \$10 billion could be sliced from the defense budget—and instead, where those same areas received a net increase of around \$1.75 billion for fiscal 1970.

In the March issue of the *Washington Monthly*, Robert S. Benson, formerly a member of the staff of the Assistant Secretary of Defense, Comptroller, gives another perceptive analysis showing where \$9 billion could be slashed from the defense budget without reducing national security:

HOW THE PENTAGON CAN SAVE \$9 BILLION (By Robert S. Benson)

I have a modest proposal.

I should like to demonstrate, in as brief and as simple a way as the complexities permit, how \$9 billion can be cut from the Pentagon budget without reducing our national security or touching those funds earmarked for the war in Vietnam.

Let me emphasize at the outset that this is truly a modest proposal, offered from an earnest belief in its practicality and with the conviction that savings from its adoption could be applied to our fiscally undernourished concerns for human opportunity.

The process by which the Pentagon budget—as well as the rest of the federal budget—is shaped and reviewed is a strange and not always wonderful thing. Any new program is usually given thorough scrutiny in Congress: debate rages over the program's purposes and over the level of funding required. Once it is accepted, however, only the funding level is certain to receive continuing Congressional attention. A nation's needs change, but rarely is a program's reason for existence ever challenged again, either in the executive branch or on Capitol Hill. On the contrary, its administering agency and its Congressional advocates, cheered on by its beneficiaries, strive to perpetuate or expand it, seldom pausing to ponder whether it is still worthwhile or whether something else is needed more.

The process can be insidious. Man, the social animal, takes comfort from acting in accord with the wishes of friends and associates. But over years of advocacy he loses some ability to discriminate, to relate the particular to the whole. In the case of Pentagon outlays, the built-in protection inherent in established programs often achieves invulnerability.

Because a mystique of secrecy and complexity surrounds the Pentagon, most Americans feel uncomfortable, or even vaguely unpatriotic, if they question any part of the military budget. But the fact is that the federal budget's provisions for defense far exceed our national security requirements. Although not many Americans realize it, a great deal of information about the threats to our security (and the forces we procure to meet them) can be gleaned from unclassified papers: budget statements of the President every January, annual posture statements by the Secretary of Defense, transcripts of Congressional hearings, and articles in the newspapers. Any serious student will soon discover that items in the defense budget, as in any other, range from fundamental to marginal. The difference is that in the Pentagon budget (a) vastly larger sums are involved, and (b) far less Congressional scrutiny is applied to them.

I

Using the sources above, my two years of experience in the Comptroller's office of the Department of Defense, and my own judgment of the issues, I hope first to outline how the budget can be trimmed by \$9 billion and then proceed to a discussion of

the weaknesses in the system which allowed this fat to survive even in the cost-conscious regime of Robert S. McNamara.

In our budget-cutting exercise these ground rules will apply:

None of the cuts is related to the war in Vietnam.

None of the cuts would impair our national security requirements.

All of the cuts are in what the Pentagon calls ongoing core programs.

All of the cuts could be effected within the next 24 months, which would allow the savings to be applied rather quickly to unfulfilled domestic needs.

The focus is on areas where forces or weapons systems are either duplicated or outmoded, where an enemy threat is no longer credible in today's political and technological environment, or where money is being lost through grossly inefficient performance.

Perhaps the best place to begin is with the Manned Orbiting Laboratory, which receives half a billion dollars a year and ought to rank dead last on any rational scale of national priorities. The MOL, a carbon copy of the National Aeronautics and Space Administration's spacecraft operation, is in the budget because the Air Force wants a piece of the extraterrestrial action, with its glamor and glory, and Congress has been only too happy to oblige.

Although there have been valiant attempts to make the MOL seem different, Pentagon space research is alarmingly similar to that of NASA. Listen as Dr. Alexander H. Flax, Assistant Secretary of the Air Force for Research and Development, tries to draw the distinction for members of the House Appropriations Committee:

"If you view the objectives of these programs as being simply to get data on humans exposed for some period of time, I think you have to conclude that there is a great deal of duplication, but I tried to make the point that our objective is primarily to test equipment, not humans. The humans interact with the equipment, of course."

True, there are potential military uses for space vehicles. But little thought appears to have been given to whether a separate program was required or whether the same results could have been achieved through slight adjustments in the parallel NASA activities. The MOL program is duplicative and wasteful. Of the \$600 million requested for it last year, Congress approved all but \$85 million. This year's budget calls for \$576 million. I would strike all of it.

As for grossly inefficient Pentagon performance, the most obvious example is manpower management and utilization. Manpower is the single largest commodity the Defense Department buys; this year, the Pentagon will directly purchase the services of nearly five million Americans. Assuming an average of \$7,000 each in pay, allowances, and supplementary benefits, the department payroll is about \$34 billion, of which about \$22 billion goes to military personnel and \$12 billion to civilians.

The Pentagon has little direct control over the costs of its civilian personnel, who are recruited mainly through a government-wide civil-service pool. But its control over military personnel is complete, covering not only the \$22 billion payroll but also about \$7 billion annually in training costs and nearly \$2 billion in moving expenses for men changing assignments.

Most men enter the armed forces either because they are drafted or because they enlist in preference to being drafted. All enlisted men entering the service receive basic training, which in the Army takes eight weeks and costs about \$1,000 per head. After advanced training in a specialty, these short-term new servicemen generally spend the rest of their hitch on assignments requiring that specialty.

A more flexible training policy would not employ such a lockstep approach. Some basic training is needed for everyone, and combat infantrymen certainly need the full eight weeks. But not all of the Army's 535,000 new soldiers this year will serve in combat, and four weeks would suffice for the others. The Navy and Air Force have already abbreviated their basic training; for the Army to do so would yield, in direct training savings alone, \$50 million.

Although the pattern of training and assignments for officers is far different, even greater economies are possible—and with a clear gain in individual job performance. After initial training, which is more diverse than it is for enlisted men, almost every officer is shuttled around through an amazing variety of assignments and further training designed to give him enough breadth of experience to become Chief of Staff some day, often at the sacrifice of obtaining no deep experience in any one field. The expectation is that every seasoned officer can lead an infantry battalion through a swamp on one assignment, promulgate personnel promotion policies behind a Pentagon desk on the next, and discuss black separatism with Ethiopians as military attaché in Addis Ababa a year later.

In this age of specialization, such a philosophy is anachronistic and expensive. No efficient business would move its men around in so illogical a pattern. By perpetuating the illusion that every officer can aspire to the top organizational position, rather than screening the candidates earlier in their careers, the services suffer from having an excessive number of men struggling to learn totally unfamiliar jobs. Moreover, today's technological and analytical complexities demand the development of specialists whose entire experience is focused on performing one particular function well. By attempting to fill the growing number of specialist slots with generalists, job performance diminishes for all.

If we were to reduce by a modest one-fourth the present number of assignment changes (whereby servicemen move almost once a year), the annual saving in transportation and moving costs alone would be slightly over \$500 million, to say nothing of the improvement in work effectiveness.

A further saving can be accomplished by changing the way the military calculates individual manpower requirements. Unlike business, which requires work units to absorb the impact of absences, the Pentagon includes a cushion to compensate for men absent on leave, in the hospital, in school, and en route to new assignments. And the military's 30 days of annual leave—which all servicemen get—is far more than the norm for civilian work forces of comparable age and experience, even acknowledging that the 30 days includes weekends. The military argues that this amount of leave time is compensation for being on duty 24 hours a day, seven days a week—but this is a myth long in need of explosion. Except for those at sea and in Vietnam, most military men work evenings or weekends no more and no less than civilians do. Cutting leave time to 20 days a year—with the exception of men on hardship duty overseas—would reduce the total armed forces manpower requirements enough to save \$450 million annually.

Thanks to Beetle Bailey, *Catch 22*, and the fact that so many Americans are veterans, the supernumerary theory of military staffing has had great visibility. But an area of far greater inefficiency—supplier performance on large weapons system contracts—draws almost no attention at all. This is especially serious because the same contractor who can be extremely efficient under the conditions imposed by the private competitive marketplace can waste millions when working under a government contract. Few Americans are aware that about 90 per cent of the

major weapons systems that the Defense Department procures end up costing at least twice as much as was originally estimated. Some of this cost growth comes from Pentagon-ordered changes in design or configuration, but much of it results from inefficient contractor practices or from his knowledge that the government will underwrite his excessive overhead.

It is up to the government, therefore, to impose on a non-competitive defense contractor the same cost discipline that the contractor would be forced to impose on himself in a competitive situation. Instead, the present procurement system is geared almost exclusively to securing timely delivery and good technical performance. Cost comes last.

The engine contract for the controversial F-111 fighter-bomber offers a classic illustration of what happens to costs after a decision is reached to proceed with procurement.

An aircraft of this kind has three major components: airframe (wings and fuselage), avionics (electronic navigation and weapons-guiding gear), and engines. For a technologically advanced fighter-bomber, the airframe will account for about 55 per cent of total cost, avionics 25 percent, and engines 20 percent. The initial F-111 contract for 2,053 engines was awarded to Pratt & Whitney on the basis of an estimated cost of \$270,000 per engine. Today the engines are expected to cost more than \$700,000 each.

In the F-111 case, and in general, four major factors account for such cost escalation:

1. The Buy-In: Our procurement system encourages contractors to play the game called "buy-in." The rules are simple. Contracts are awarded to the company which offers the lowest bid with a straight face. Later cost overruns may bring a mild reproach or a stern reprimand, but they will not prevent the contractor from getting enough money to cover all his costs and pocket a profit. A contractor rarely takes these reprimands seriously; he knows that his competitors have similar experiences. Besides, the procurement officials have told him to worry about performance and prompt delivery, not about cost. So the buy-in game produces initial cost estimates that everyone knows are unrealistically low.

2. Design Changes: From the time bids are requested on a new weapons system until final delivery, a great many changes in design specification develop. These changes are often initiated by the Defense Department, although some reflect contractor production problems. In either case, the costs change—usually justifiably, but almost always upward.

3. Volume: Changes in volume are even farther beyond the contractor's control. In large contracts, economies of scale are often achievable; if a weapons system is found highly useful, as was the F-4 fighter, and more units are ordered than were initially planned, the later unit costs are lower. In the case of the Air Force F-111, however, cancellation of British orders and the Congressional decision to kill the Navy version reduced the number of aircraft to be purchased, thereby raising the unit cost.

4. Sheer Inefficiency: These costs arise because a contractor has slipshod purchasing procedures, poor scheduling of men and machines, ineffective work standards, or other managerial deficiencies. Such extra costs would be a threat to a company's survival in the competitive private marketplace; they should not be tolerated in defense procurement.

In calculating how much of the F-111 engine's cost growth was due to this intolerable fourth factor, we need to begin by figuring how much the first three factors cost.

We know that the original \$270,000 estimate was artificially low. Allowing for buy-in fibbing and for some early required

changes in design, an initial figure of \$450,000 would have been more realistic. Later design changes may have raised the allowable price to \$500,000. But the contractor's final estimate of \$700,000-plus, made after the British action but before the Congressional cutback, probably should not be adjusted for volume changes, because the British buy was to have been proportionately very small and there are good indications that this actually enabled Pratt & Whitney to disengage itself from some expensive subcontracts. So unjustifiable contractor inefficiency amounted to around \$200,000 per engine.

It could have been worse. Past practice in such cases, where the government is dealing with a single supplier rather than with several competitors, has been to accept whatever price is commensurate with the costs the supplier has incurred, regardless of how efficient or inefficient he is. But, in an unprecedented action, the Defense Department ordered an investigation of Pratt & Whitney operations to determine how much such an engine ought to cost if produced under efficient manufacturing procedures. After that, the Navy—which had contract responsibility for all F-111 engines—took the further unprecedented step of unilaterally setting the price it intended to pay. Indications are that the Navy compromised its position somewhat after some hard bargaining, but the final contract did reduce by about 15 per cent the price proposed by the company, which customary procedures would have accepted outright. This saved the government roughly \$200 million.

Two other good examples of spiraling costs were described in recent hearings before the Congressional Joint Economic Committee. A. E. Fitzgerald of the Defense Department reported that the C-5A transport may cost \$2 billion more than the original contract ceiling of \$3 billion; yet when Defense negotiated the contract with Lockheed, then Secretary of Defense Robert S. McNamara described it as "a model method of doing Defense business . . . a damn good contract." In another case, retired Air Force Colonel Albert W. Buesking, a former financial officer for the Minuteman intercontinental ballistic missile, said the Minuteman contractors received a 43 per cent pre-tax profit based on net worth, or about twice the normal industrial return; he estimated that defense contract costs are 30-50 per cent "in excess of what they might have been under conditions of competitive-type commercial environment."

Conservatively assuming that aerospace and shipbuilding contractors harbor an inefficiency of 15 per cent, and figuring that the average annual amount provided for research and procurement of such systems over the past three years is about \$17.9 billion, then wiping out the inefficiency would annually save the government \$2.7 billion.

This is no pipedream. It requires no dramatic breakthrough in management techniques. Such savings could be achieved quickly if the Secretary of Defense and the Secretaries of the individual services resolved to focus the energies of their top financial and engineering men on procurement of these major weapons systems. What is needed is some truly independent cost-sleuthing into contractors' operations, with firm backing from top Defense management for appropriate follow-up efforts.

The most fruitful way of all for saving defense dollars is to eliminate forces which no longer pack a credible punch or which were designed to meet a threat that is no longer credible.

The Navy's Polaris/Poseidon fleet ballistic missile program is vital to our national security. But the Navy's three primary and independent conventional warfare missions—tactical air, amphibious operations, and shipping protection—are overequipped, as are

their associated support units. Current force levels cannot be justified by any potential threats. In my view, President Nixon was misguided when he decried America's loss of sea power during the campaign last fall. He made the mistake of applying the same argument the admirals use when they attempt to eternalize and expand their favorite programs: that the United States must have superiority in numbers, ship-type by ship-type, over the Soviet Navy. This is a legacy of late-1940's thinking, when it was assumed that we must always be ready to fight and win an extended war at sea. In the nuclear age, such thinking is highly unrealistic.

Fifteen aircraft carriers are presently assigned to the Navy's tactical air mission. Since the wallop they pack is purely the firepower of their aircraft, they should be compared with the alternative means of delivering that firepower—Air Force tactical aircraft. Carriers can deploy quickly to areas where we have no airfields, and they are safe from insurgent attacks (though they now appear to be vulnerable to Russian Styx missiles). But this flexibility comes at a high price. Independent studies place the cost of carrier-based tactical missions at three to four times that of similar missions flown from ground fields. Because of the many air bases we have built all over the world, we can rapidly deploy land-based aircraft to most areas. Carriers still play a necessary role in providing the potential to fight in a handful of otherwise inaccessible places and in meeting initial "surge" requirements for a non-nuclear war. But there is no justifiable reason to use them on extended deployments in major wars as we do now in Vietnam. Although the Defense Department will never admit it, the only reason we continue to employ carrier-based air strikes there is that the jealous Navy doesn't want to be shut out of some role in the war.

Tactical aircraft carriers could be cut from 15 to 10 without risk to the country's security. The average annual peacetime operating and modernization/replacement cost per carrier appears to be about \$120 million. Assuming that the costs of expanding Air Force tactical missions to take up the slack were one-third as much, the net annual saving from the elimination of five carriers would be \$400 million.

Marine Corps amphibious assault tactics have been used in minor contingencies such as Lebanon and the Dominican Republic, but against a major power they would be highly vulnerable to a tactical nuclear weapon. Nor are Marine forces now structured logistically for sustained combat, the type of war that Vietnam would suggest is most probable. Without eliminating any Marine troops, we could—by restricting their amphibious training and equipment and phasing out a proportionate share of assault ships—save \$100 million annually.

A classic example of continued spending for protection against a no longer important threat is the third major area of Navy tactical forces—protection for shipping. The structuring of our anti-submarine and supporting antiaircraft and fleet escort forces harks back to the post-World War II prospect of a sea war with Russia. If we ever do begin destroying each other's ships, there seems little prospect of avoiding escalation to nuclear war, which would make shipping protection irrelevant. Further, as various jumbo aircraft near production, the cost gap between a ton-mile of plane transportation and a ton-mile of ship transportation is narrowing. Yet instead of scaling down our protective forces, we are keeping them up and even expanding them, through last year's implausible decision to begin procuring VSX anti-submarine aircraft. Killing this program and reducing overall shipping defenses to a sensible level—four anti-submarine carriers and three air groups rather than the present

eight carriers—would save an annual \$600 million.

Another major area in which our involvement is unreasonably large is our troop commitment in Europe. We have about 310,000 soldiers there now, accompanied by more than 200,000 dependents. Such a staggering share of the NATO burden was appropriate while our World War II allies struggled to get back on their feet, but they can now afford a larger load. Part of the thesis behind U.S. deployments is to make certain that any substantial attack by Warsaw Pact forces would engage American forces, thereby creating potential consequences that the Soviet Union would find untenable. But this could be assured with far fewer than 310,000 U.S. troops. Says Senator Stuart Symington (D-Mo.), a former Air Force Secretary recently assigned as chairman of a Foreign Relations subcommittee that will investigate the involvement of U.S. forces abroad: "Surely 50,000 American troops would be sufficient to make sure that no Soviet probe could succeed in Berlin or elsewhere in Europe without a direct confrontation with the United States."

In the event of a truly major Soviet attack, not even 310,000 U.S. troops plus the NATO allies' forces would be sufficient to thwart it. But both sides recognize that an assault of such proportions is likely to evoke a nuclear response.

Psychological reasons prevented us from making a major cut in our European forces close on the heels of the Russian takeover in Czechoslovakia last year. But that should not deter us from effecting the cut this year. If anything, our non-response to the Czech invasion simply reinforces the reality learned in Hungary in 1956—that the United States is not about to send troops into Eastern Europe no matter what the Soviet provocation.

Realistically, we could cut back to a total of 125,000 troops in Europe plus 50,000 at home earmarked for NATO contingencies, and cut by one-fourth the air power assigned to the European theater (a McNamara comparison shows that NATO air forces can deliver a payload more than three times greater than that of their Warsaw Pact counterparts). Altogether, these reductions would annually save about \$1.5 billion.

The final two programs of questionable value—the SAGE-Air Defense Command system and the Sentinel antiballistic missile system share some common characteristics. Both are defensive, in an age when the balance of terror rests on offensive missile strength. Both encompass a detection function and an intercept guidance function. And numerous technical experts express serious doubts about the potential operational effectiveness of either.

SAGE represents yesteryear's attempt to defend against the Soviet version of our Strategic Air Command. It is widely conceded that the Soviets have grounded their bomber development efforts and no longer pose their primary strategic threat in this area. Nonetheless we persist in trying to further refine our bomber defenses, when in fact we have already achieved a satisfactory capability in the detection sphere. Moreover, SAGE's role as a guide to interceptor pilots is rather superfluous, given its imperfections and our primary reliance on a strong offensive deterrent. Some reductions have already been effected in the Air Defense Command, but conversion from a full defensive system to purely a warning system ought to save \$600 million annually.

If SAGE is intended to sustain a mostly futile yesteryear system, the Sentinel ABM represents a misguided attempt to provide protection tomorrow. Against the destructive power of the missile, our best defense is a good offense. Particularly tragic is the staggering cost of a full-blown "thin" Sentinel system. Because it is so expensive, and the work is therefore parceled out to many Congressional districts, many politicians

have favored it. It therefore may be difficult to stop before we have spent \$40 billion. However, the Sentinel program faces increasingly fervent opposition in the Senate this year—partly because residents in four cities where ABM sites are being developed have objected so loudly.

Sentinel would make some sense if it truly promised blanket protection against strategic offensive missiles. But it doesn't. As Secretary McNamara said in a speech in San Francisco 18 months ago: "... any such system can rather obviously be defeated by an enemy simply sending more offensive warheads, or dummy warheads, than there are defensive missiles capable of disposing of them."

Secretary McNamara opposed the Sentinel, but President Johnson overruled him and decided to proceed with the program. Today we are on the road toward building a \$5 billion ABM system, ostensibly for protection against Chinese missiles—as yet undeveloped—should Peking miscalculate our potential response and attack us.

It seems unrealistic not to expect the Soviets to perceive the \$5 billion "thin" Sentinel as a first stage in a \$40 billion "thick" defense against themselves. Senator Richard B. Russell (D-Ga.) said as much last year when he was chairman of the Senate Armed Services Committee: "... there is no doubt that this is a first step in a defense system against an atomic attack from the Soviet Union." Yet all seven of the men who have served over the past decade in the jobs of Science Adviser to the President or Director of Research and Engineering in the Defense Department have recommended against deployment of a "thick" ABM system designed to protect our population against a Soviet attack.

By halting the Sentinel now, before it acquires irreversible momentum, we could save \$1.8 billion this year, not to mention vastly larger sums during the next decade.

The items above do not exhaust the list of things to cut—there are other savings to be made in such areas as mapping operations, the reserve forces, logistics—but the total here will serve as a start. It amounts to a total savings of \$9,276,000,000.

II

If all these Pentagon budget cuts are so obvious, why didn't the cost-conscious McNamara regime push them through? Did the Whiz Kids fail? Were they really trying? I think a fair assessment would have to conclude that they were trying hard but were only partly successful, for five basic reasons.

First, McNamara's Band was greatly outnumbered by experienced adversaries bound together by a shared goal—more and bigger military programs. All the elements in this military-industrial-congressional complex are served by an enlarged defense budget, though their motivations are different. Industry wants greater sales and profits. The military wants expanded power, plus the assurance that they will be on the forefront of technology. Congressmen respond to pressure from contractors and military employees in their districts, and those on the military committees yearn for the prestige and power that comes from presiding over a bigger slice of the federal pie. The combination made life difficult even for a man as strong and courageous as Robert McNamara.

Second, in selecting systems to analyze for effectiveness, the Whiz Kids chose to concentrate on the relatively uncluttered strategic programs instead of digging into such fat and messy activities as we have catalogued here. Within their selected framework, they generally performed technically sound, objective initial analyses. Once they arrived at a position, however, they too often "over-defended" their conclusions; that is, they were unwilling to reassess them against subsequent cost experience, technological ad-

vances, or a changing international political environment. For example, the current structuring of our programmed airlift/sealift needs emanates from a carefully developed linear programming model. This model attaches a high value to rapid deployment, stemming from an early 1960's Europe-oriented study which showed high benefits in terms of political bargaining power and casualty minimization. This analysis still makes good sense in Europe, but now appears grossly misapplied in Asia. Yet nothing has been done to revise the high value placed on rapid deployment. Such a change would point to a different desired mix of airlift and sealift.

Third, the Defense Department's budget review process concedes too much at the beginning. Last year's budgeted amounts are generally taken by everyone as this year's starting points. This practice ignores the possibility that fat crept into preceding budgets or that some of last year's activities are now outmoded. Consider, for example, the subject of training, in which the armed services have been pioneering for years by applying new technology to education. This area should be a prime candidate for frequent review from the ground up (what the managers call "zero-base" budgeting). Rather, the Defense Department budgeting process virtually concedes last year's amount and focuses on whatever incremental changes have been requested. The result, of course, is higher budgets, with past errors compounded year after year.

A fourth limitation also derives from the planning and budgeting system. Discussions about the desirable level of various forces are conducted in terms of numbers of things—missiles, carriers, fighter wings. This flows naturally out of intelligence estimates of enemy forces and subsequent analyses of how much counterforce the United States needs to nullify them. Approval is then given to the Air Force to buy 40 more fighters or the Navy to buy four more submarines, each with specified capabilities. But carrying out such purchases is not like walking into an automobile showroom and asking for a yellow Plymouth Belvedere sedan with power steering. As a submarine is built, many unanticipated choices present themselves; they involve different levels of effectiveness or convenience for different levels of dollars. Inevitably the generals and admirals want to buy as much capability as possible; it is almost always more than is required to meet the threat. For want of adequate follow-up by top procurement officials, the generals often have their way.

Finally, the President and the Budget Bureau have shied from making public any meaningful comparisons between military and domestic programs. Systems analysis, the technique that aims to measure the relative national worth of results obtained from alternative programs, cannot precisely compare the benefits to be gained from highly diverse activities. Yet inexact as such comparisons may be, the Budget Bureau does make them and present them to the President from time to time. If the President, for his part, were to discuss national priorities more frequently and candidly with the public, then Congressmen might be less likely to base their judgments on the only other available view—that the present balance of activities is about right.

The present balance of activities is anything but right. Unmet national concerns for human opportunity and the quality of life require an investment even larger than the amount that would be freed if all of the Pentagon reforms outlined in this report were carried out.

Perhaps the clearest, most thorough delineation of these high-priority social needs is found in the report of the National Advisory Commission on Civil Disorders. To redress root causes of despair and frustra-

tion, the Commission recommended a long series of measures which, if enacted in full, would cost between \$13 billion and \$18 billion a year over their first several years.

The only way to begin addressing these unfilled needs is to take money away from Pentagon programs that must rank lower on any rational national-priority scale. Examples provide compelling support for this argument. We have such choices as:

Funding the Manned Orbiting Laboratory—or providing Upward Bound summer courses for the 600,000 additional ghetto students who have the potential to go to college;

Spending this year's Sentinel funds—or training 510,000 more hard-core unemployed;

Continuing to operate one of the marginal tactical aircraft carriers—or training and supporting 20,000 more Teacher Corps members;

Maintaining our full troop complement in Europe—or diverting an additional \$10 million to each of 150 Model Cities;

Permitting excessive contractor costs to flourish unchecked—or providing Head Start education for 2,250,000 more children, plus enough school lunches to feed 20 million children for a whole year.

These alternatives are real and immediate. They do not represent wishful dreaming. The choices are up to Mr. Nixon, to the Congress, and ultimately to ourselves.

In real terms, no cost is too high for true national security. Let there be no doubt, I fully back any concept which protects and advances the security of this Nation. But I am unwilling to support fantasies of the military-industrial complex in the quest for an ever-increasing share of our national product.

It is absurd for Congress to authorize a program which can cost up to \$100 billion and which—even if it did work—may concede the lives of up to 90 million persons. Other Members today are presenting an overwhelming case documenting the sketchy premises upon which the ABM system is being built. I shall not repeat those arguments. Justification for ABM has yet to be proved, and it is nonsense to continue to deploy the system on the basis of the arguments brought forth so far by its proponents.

Were scare merchants willing to put as much effort into establishing a functioning Nuclear Nonproliferation Treaty and to seeking peaceful ways to end the suicidal arms race, then I might hold a different view of their judgment and motives.

My own personal views on means of achieving a secure and lasting peace are best reflected by a major policy statement recently released by the National Council of Churches entitled "Defense and Disarmament: New Requirements for Security," which I would like to insert in the RECORD at this point:

DEFENSE AND DISARMAMENT: NEW REQUIREMENTS FOR SECURITY

(NOTE.—This Background Paper is issued by the Department of International Affairs of the National Council of Churches for use in connection with the NCC Policy Statement on this same subject.)

INTRODUCTION

It is the purpose of this statement to address the issues of national defense and security in Christian perspective in an effort to provide a new concept of, and a new context for, national security. We believe that a new international community is coming into being in the midst of the system of nation-

states, which for so long have been preoccupied with their own security—a security understood largely in military terms. This new system of increasingly global interdependence is one in which security must be seen more and more in its international dimension—bound up with technology, international finance and trade, and cross-cultural encounter. The world view that provides the context for present United States defense policies seems to be an inadequate reflection of this reality.

One of the dominant elements of the post-World War II period has been the "Cold War" and the arms race that it has spawned and on which it has fed. This phenomenon grew largely out of the convergence of two historical events—the development of atomic and nuclear power and the ideological rivalry between "the free world" and "Communism." Enormous scientific and technological advances have put at man's disposal an unprecedented amount of power. At the same time, demands for national security, generated especially by the ideological and power confrontation between the Great Powers, have led to the channeling of a large portion of this power potential into defense and defense-related projects. Each of these events has aggravated the other.

During the past two decades questions of defense and national security have increasingly become the chief concern of the United States Government. A growing proportion of our national substance is being channeled into defense-related endeavors in a search for increased security. This has created an astronomical increase in the destructive power of our military forces. As a result, the problem in the nuclear age is no longer the increase but the controlling and curbing of power.

Without denigrating the legitimate duty of nations to provide adequate protection and security for their peoples, we believe that it is incumbent upon Christians and others to declare that an increase in military power is not necessarily an increase in security, prestige, or any other value. If the requirements of a just peace and the understanding of a responsible use of power, as suggested by the National Council of Churches,¹ have validity, it is therefore imperative that Christians in the United States address themselves to questions raised by the United States emphasis on military power in the pursuit of security.

The emerging international community is at present more of a community of risks than a community of mutual concern and action, but it is a historical reality and not simply a disembodied ideal. The Christian faith must recognize and celebrate the development of this new universal community and must view the policies of nations in this light. That faith requires no less a perspective than one that embraces all nations, and it does not permit the interest of any nation to become absolute. Thus, both historical events and the demands of the Christian faith lead us to ask for a new approach to questions of national defense and security by the citizens and the Government of the United States.

I. THEOLOGICAL PERSPECTIVE

Man in his finite freedom can use the power he has developed in ways useful and redemptive for humanity or in ways destructive and dehumanizing. The Christian must therefore be particularly concerned, along with all men of compassion and human sensitivity, with the management of power, especially military power.

For the Christian this concern stems first from his belief that God is Lord of creation. Man has been given the whole of creation to

tend, to develop, and to use in his freedom for the common good. Creative in the image of God, man is to be creative also, using his God-given power and freedom in ways that will serve the common good and further God's loving purposes for His world.

Second, this Christian concern stems from the belief that God is sovereign over His creation. The sovereignty of God imposes limits on all national sovereignties and on the use of power by these sovereignties. At the same time it gives a degree of legitimacy to national sovereignty since, in our era, it is the nation-state that is a primary instrument through which men work to shape the conditions of human community—conditions without which men could not realize their intended potential.

Third, the concern of the Christian is based on his belief that God is active in His creation through participation in its history. The sovereign Lord of creation is also the God who "was in Christ, reconciling the world to himself" and who calls us to be agents of reconciliation. In our era, when the political sphere is so determinative for the direction of history and for human existence itself, the Christian must seek to discern and to respond to the political dimension of this reconciling activity.

Within this theological framework, there has been historically a diversity of Christian conscience regarding military power, its legitimacy and use. For some defense is grounded in the commission of government to maintain peace and order in a world always threatened by chaos, to develop and maintain a positive order of justice as a work of love, and to provide a stable political existence within which life may become more genuinely human. For others, the use of military power cannot be supported by Christian teaching. For them, the reconciliation and love which the gospel proclaims and to which it summons men are antithetical to the use of military force. Most would agree, however, that the roots of the Christian concern for the management of existing power, i.e., the belief in God as Creator, Sovereign, and Reconciler, place qualifications on its establishment and use. First, man's responsibility for the created order is a responsibility to preserve and develop it, not to abuse and destroy it. The use of large amounts of the world's wealth and manpower for the development of ever-improved means of destruction calls into question the quality of the stewardship man exercises in his care of the earth. Defense policies that threaten the destruction of a large part of the created order are likewise to be questioned.

Second, God's sovereignty, which imposes limits on political sovereignty, also places limits on the moral autonomy of any aspect of the political order. A government's political or military activity that tends to exceed the limits of its commission or to frustrate the intentions of that commission is in effect an act of self-idolatry and a denial of God's sovereignty. This precludes an uncritical "my country right or wrong" attitude on the part of Christians.

Third, God's reconciling act in Christ, the response to which is the Christian vocation of reconciliation, denies the ultimacy of the parochial political community and affirms that the "enemy" is the brother for whom Christ died. Defense policies that intend or threaten to destroy the enemy society deny the inclusiveness of the human community and in effect reject the Christian mission of reconciliation.

The function of politics, and the legitimate concern for security must, according to Christian faith, be controlled by and responsive to God's creative, ordering, and reconciling work. Man's relationship with man is marked by much distrust, disorder, and alienation, particularly in the relationships among national communities. Technology

has created a community of mutual dependence but not one of trust and mutuality. In this political realm the Christian vocational concern is not with establishing a perfectly moral order. Rather, it is a concern to provide better conditions for an effective work of love in which such trust and mutuality can be more effectively realized, i.e. conditions under which the mission of reconciliation can be carried on in relatively better circumstances. The appropriate conditions to be sought, however, may vary considerably, depending on the situation calling for a response. While we are to serve the growth of community and reconciliation, we have to seek them through an endless variety of circumstances and in a world that often does not permit us to seek them directly. On the other hand, the mutuality of interests that does exist must be utilized to its greatest advantage in order to broaden and strengthen the basis for future international cooperation.

II. SECURITY AND THE INTERNATIONAL SITUATION

As men and nations seek to create conditions under which the work of reconciliation can be carried on more effectively, there must be a clear perception of the international situation to which they must respond.

Under present conditions the instruments of international order are inadequate to resolve the most persistent and threatening conflicts among the nations of the world. Given these conditions, which we believe to be transitional to more integral forms of international community, it is to be expected that the various nation-states will assume the responsibility to maintain their own security arrangements, either individually or in concert.

In the pursuit of such security arrangements, however, at least two nations, the United States and the USSR, have already developed the power virtually to destroy whole societies and to lay waste that social fabric that is indispensable for meaningful human existence. The goal of the policies that resulted in this great accumulation of power has been a legitimate one—national security or, as it has sometimes been stated, the kind of world in which we and others wish to live. But there is real evidence that this goal has not been fully achieved and that, in fact, the defense policies and strategies designed to realize it have in some ways tended to thwart legitimate security goals.

In theological terms, the adequacy of present defense policies must be questioned in view of the following dangers: First, they threaten to destroy the created order for which man is responsible, not only because of the immediate effects of nuclear blasts and fire damage but also because of the long-range effects of genetic damage and nuclear contamination of the earth. The ecological effects of chemical, biological, and radiological warfare can be equally destructive of the created order. Second, the requirements of present policies seem to have become self-validating in actual practice and to have subordinated other values. Such relatively unquestioned acceptance, often in the name of military necessity, tends to make the policies self-justifying ends in themselves. Third, the possibility of advanced escalation in an actual nuclear war implies the destruction of the adversary's population and social order and, in so doing, denies the inclusiveness of the human community. The destructiveness of large-scale conventional warfare may have the same result. In each instance, then, there is a breach of the limitations that the Christian faith would place on defense measures.

In political terms, the adequacy of present defense policies must also be questioned in the light of the criticisms of many knowledgeable observers. There are several aspects of the present international situation that,

¹ Policy Statement, "Imperatives of Peace and Responsibilities of Power," adopted by the General Board on February 21, 1968.

in view of the positive political goals they seek, call into question both the wisdom and the effect of current national defense and security arrangements. Among these are the following:

(a) The national security of the United States has declined as the nuclear arms race has increased. Though our defense capabilities already go far beyond the needs of deterrence, rarely in history have men been so fundamentally insecure, especially those in nuclear nations. There is no adequate defense against a sophisticated nuclear attack. In a nuclear confrontation our massive power could be employed only at the cost of reciprocal national suicide. Thus the mutual escalation of the nuclear arms race increases only mutual destructive capabilities. It does not increase security.

(b) The distrust and suspicion of the Cold War are often further exacerbated by some of the military postures that are designed to cope with it. Mutual deterrence can easily generate new fears, lead to higher levels of unnecessary armaments, and undermine efforts toward arms reduction and mutual accommodation, which are necessary for a stable international order. Regardless of intentions, actions by either the United States or the USSR to increase its nuclear capabilities trigger similar reactions on the other side. So long as this "action-reaction phenomenon," which fuels the arms race, continues, fears will be aggravated rather than allayed and nuclear arsenals, already greatly in excess of what is needed to be credible, will continue to grow.

(c) The nuclear arms race and the perpetuation of the Cold War have resulted in an enormous outlay of money and resources for military purposes which jeopardizes other national programs. With the added impetus of the Vietnam war, two thirds of our total national expenditures are now spent for defense-related purposes. Currently, the military expenditures of all nations amount to about \$140 billion annually, with the \$72 billion United States defense budget for fiscal 1969 more than equaling the defense expenditures of all the rest of the world combined. This vast use of our money, manpower, natural resources, expertise, and energy for defense-related purposes removes these resources from more humane and constructive uses, and perpetuates the long-standing neglect of increasingly dangerous domestic problems. It also means increasingly inadequate efforts to deal with the overwhelming security problem posed by the world's hungry and deprived majority. The \$140 billion spent by the nations annually for defense pales into insignificance the \$9 billion spent by all nations for international development.

(d) The power and influence that inevitably accompany the control of such a large portion of our national resources mean that military considerations now influence virtually all other national decisions. This is not to say that some conspiratorial military-industrial cabal is responsible for this phenomenon. It is doubtlessly more accurate to see it as the result of a huge military establishment, whose needs have of necessity given rise to a large private defense and research industry. Together, tied by bonds of common interest, they have become a major political force. Nevertheless, the result has been that the issues of war and peace, of international trade, of economic development at home and abroad, and of science and higher education are being determined increasingly by government decisions concerning strategic deployment of military forces and weapons and military technology. The allocation of the nation's resources, the determination of its priorities and purposes, and the possibility of free political debate and academic inquiry are all affected by these decisions.

(e) There are dehumanizing elements in the nuclear strategies of the Cold War.

Weapons of mass destruction lead inevitably to calculations of human destruction in terms such as "megadeaths," as opposed to the more sobering "one million dead human beings." This effectively dehumanizes the enemy, especially when he is also thought of collectively in ideological terms like "Communists" or "Cong." The remoteness of push-button warfare, removing the enemy from the immediate presence of his adversary and making killing easier psychologically, strengthens this tendency. Dehumanization is also a danger within the nation. The acceptance by the populace of a national commitment to use weapons of mass destruction can, over a long period of time, lead to ethical desensitization. This can also be the result of living in what has been termed a "weapons culture," a society increasingly devoted to and organized for the production of the tools of war.

(f) An overly ideological approach to the world's ills on both sides influences the perception of events and causes distorted interpretations of the facts to fit the preconceived ideology. The oversimplified and now outdated bipolar world view, formulated at the end of World War II and still adhered to in some quarters, tends only to perpetuate the dated dogmas of the Cold War. Such a world view seems increasingly inadequate to describe the contending interests within and between blocs and the new realization of common interests between supposedly implacable foes. This gap between perception and reality can only exacerbate the dangerous Cold War rivalry, slow down the advance toward international order, and have a deleterious effect on that open communication between nations that is essential for understanding and reconciliation. At the same time, such an ideologically-colored perception of reality can set in motion the mechanism of the self-fulfilling prophecy.

III. A NEW CONTEXT FOR SECURITY

The demands of the Christian faith, and the most salient features of the international situation to which Christians must respond, lead us to ask for a new approach to national defense and security issues on the part of the citizens and the Government of the United States. Such an approach should encompass at least three interrelated requirements:

A. A first requirement is a new understanding of security. We believe that present military planning, with its emphasis on the continuing buildup of military forces, is out of touch with the real security needs of the nation. In our world, security is not to be found in vast defense establishments, which in a variety of ways often help to exacerbate the very insecurity they are meant to alleviate. Moreover, excessive preoccupation with the limited area of military security dangerously narrows the national perspective on the broader meaning of security.

The present threat to United States security arises from neglect of social justice—a result in part of defense spending—and reveals a new and tragic dimension to the problem of security, for which traditional concepts are inadequate. National security in the modern world must be supplied by international processes and institutions for arms limitation and control, for peace-keeping and peacemaking, for development, for finance, and for adjudication, rather than by immense defense establishments. Only a new understanding of national security and its integral relationship to the needs of the underdeveloped world can make international security possible.

B. A second requirement is a new approach to the use of national resources. We believe that, while national security does require the maintenance of an adequate military force, the level of armaments reached today far exceeds that needed for security and is leading us to ignore the desperate plight of many of our own citizens and of people throughout

the world. A national security that is supplied by international processes and institutions calls for a use of United States resources—money, manpower, natural resources, and expertise—commensurate with the requirements of justice and peace. The building of our own nation and the use of our resources to help others build their nations are the two primary tasks. A major shift from the objective of increasing military capabilities to the objective of sound development and nation-building is necessary to meet these tasks.

C. A third requirement is a new emphasis on human rights and values. We believe that defense policies should be, in the last analysis, for the service of human life on earth, and must be constantly revised in the light of what they are designed to defend. Otherwise it may be possible for the defense establishment to make its work an end in itself, to become overly fascinated by the tools of war and their efficiency, and to forget or even unconsciously to thwart the purpose they are to serve. That purpose is, simply, to act so that man's life on earth may have the stability required to enable it to become human.

Emphasis on the human ends of defense means also that citizens must regain a greater degree of control over the military services that seek to protect them. Defense policy has been increasingly removed from effective political processes. It is a part of our present mentality that defense problems are left to the "experts," and that largely without question the citizens pay the immense bills that result. The right and duty of citizens to debate and to express themselves in defense matters must be reawakened. They must insist that their resources be used to meet real and pressing human needs, not applied to military goals, which bear little relation to those needs. They must reject the tendency, both at home and abroad, to answer deep issues of human rights in terms of coercion or suppression. There is a need for a new establishment of priorities between the claims of military defense and the claims of human rights and values.

The foregoing context for reappraising the meaning of security suggests the preliminary necessity of acknowledging that the present policy of maintaining nuclear superiority is ultimately futile. There is no advantage to be gained by nuclear superiority, however it is computed, when each side is admittedly capable of inflicting overwhelming damage on the other, even after being attacked first. Such effective parity has been operative for some years. Any effort to achieve superiority only leads to ever-higher levels of armaments as it forces the side with the lesser capability to seek to overcome its inferiority and forces the side with the greater capability to seek to maintain its superiority. In the wake of this action-reaction phenomenon comes a decrease in both stability and security.

The political context of international relations has changed sufficiently to allow for and even encourage a movement toward a decline in the importance of nuclear weapons. That context includes positive political forces that provide opportunities to strengthen the bonds of international community and to make possible reductions in military stockpiles. Once the meaninglessness of nuclear superiority is acknowledged, those positive forces can be more widely perceived and utilized. Communism, for example, is no longer monolithic. The extreme hostility of the Cold War years has been reduced, and even in spite of Vietnam a limited but real spirit of mutual accommodation has developed.

The United States and the USSR both realize that war between them is unacceptable and that, while many differences remain, there are many areas of mutual interest.

Both have critical domestic problems calling for attention. Both also are beginning to understand that cooperative efforts to help solve the problems of the developing world are necessary lest these problems one day threaten the security of both of them.

The effort to encourage a new approach to national defense and security issues, therefore, does not have to take place in an international milieu completely alien to the goals of that effort or completely unsympathetic to its requirements. That attempt can and must capitalize on the common interests and concerns already built into the present international situation. In addition to the elements of disorder, there are also elements of order present. The Christian political vocation must seek to utilize these elements as it seeks to restore defense to its proper limits and to subordinate it to the demands of justice and the work of reconciliation among peoples and nations.

IV. PROPOSALS FOR ACTION

Many years of effort to seek mutual agreements on the control and reduction of the instruments of force have netted little agreement. There have been a few successful efforts, most notably the 1963 partial test ban treaty, the outer space treaty, and the nuclear nonproliferation treaty. These have been constructive steps, and have helped to lay the foundation for more far-reaching agreements. The United States' efforts in concluding these agreements are to be commended. The nonproliferation treaty, now awaiting ratification by all nations, is an important and necessary step toward preventing the further decline in the security of all nations that would result from the proliferation of nuclear capabilities, and from the ensuing regional arms races and drain on scarce resources. But these agreements have done little to halt the nuclear arms race among the Great Powers or to allay the mutual fear and distrust, which that arms race both reflects and perpetuates. Neither have they brought about a new approach to the problems of defense and security.

In striving to achieve the objectives required for a national reorientation on issues of defense and security, what is called for in terms of next steps? The following are suggested as illustrations:

A. Arms control and arms limitation

A general prerequisite for meaningful progress in arms control efforts is a good deal more flexibility in arms control negotiations and a greater readiness to undertake such things as unilateral steps, reductions by mutual example, and relaxation of verification requirements. Such flexibility can lead to mutual accommodations that will offer a more promising prospect for major steps toward both disarmament and broader but directly related political settlements. Specifically, it seems essential that the following measures be implemented:

1. A mutual halt in the further production and deployment of strategic offensive and defensive missile systems. The 1964 United States proposal "to explore a verified freeze in the number and characteristics of strategic nuclear offensive and defensive vehicles" deserves renewed emphasis, though explorations should not be restricted to this specific formula. A halt in the production of the weapons of greatest destructiveness would reduce the fear of the development by one side of a decisive first-strike capability, thereby strengthening internal resistance on each side against pressures for more ICBM's or antiballistic missiles. A unilateral United States freeze, at least for a finite period of time, should also be considered.

A mutual halt in the deployment of missile systems, at least for an agreed period of time, would add to the security of both the United States and the USSR. Each can now assure the destruction of an unnecessarily large percentage of the other's population,

regardless of enemy defense capabilities. Such a halt could be effectively monitored by existing national satellite observation capabilities. Such a halt, in either production or deployment, not only would increase security but also would open the way for reduction in strategic arms and defense spending. Any such halt should be followed by negotiations to begin actual reduction of strategic weapons.

Specifically in regard to defensive weapons, every effort should be made to resist the pressures to expand the present plan for a "limited" deployment of a United States antiballistic missile system. Some would even seek to rescind the decision to begin an ABM deployment. The decision to deploy the ABM can have serious consequences for both the world political climate and the real security of the nation, particularly if those who see it as a first step to a heavy, Soviet-oriented system are heeded.

2. Widespread support for the nonproliferation treaty. A halt in the further spread of nuclear weapons to nations which do not yet possess them is an important and necessary step in reducing the danger of nuclear war. The development and possession of such weapons by an increasing number of nations would increase the possibility that these weapons will be used, thereby threatening the peace and security of all nations. Regional rivalries could lead to arms races all over the world and the draining of scarce resources from more constructive projects. Thus the nuclear nonproliferation treaty agreed to by the United States and the USSR and awaiting the approval of all nations deserves strong support.

3. A mutual cessation of the production of fissionable material for military purposes, under IAEA-approved safeguards, and the transfer of agreed quantities to peaceful uses. Such a step would cut off the supply of an essential ingredient for the further production and testing of nuclear weapons. This would be an appropriate response to the demand of the non-nuclear powers for some step toward nuclear self-denial by the nuclear powers. Recognizing the great need in the world for new sources of energy for constructive purposes, and the great economic potential available through the peaceful uses of nuclear energy, we also urge the United States to continue to seek ways to make the peaceful services of nuclear explosives and nuclear fuel available to non-nuclear states, through appropriate international bodies and with safeguards against their use for military purposes.

4. A comprehensive test ban treaty, taking into full account available national means of detection and inspection. Further improvements in nuclear weaponry will not significantly affect the military balance. Therefore the degree of assurance against violation of a nuclear test ban can be relaxed. Technological developments have also greatly improved the nation's ability to detect and identify nuclear weapons tests, thereby making an on-site inspection provision less critical. Continued testing only acts as an incentive to the nuclear arms race.

5. A United Nations declaration forbidding nations to place weapons of mass destruction on the seabed. This is an environment not yet penetrated by nuclear weapons. Every effort to prevent the introduction of such weapons into areas that are currently nuclear-free, as has been done in the Antarctic and in outer space, is to be supported. The United States intention to adhere to the Latin American nuclear-free zone treaty is to be commended.

6. Continued study and planning in problems related to conversion from defense to nondefense production. Study and planning on conversion are essential in order to avoid serious dislocation in the economy and also to avoid any tendency to prolong wars for the sake of the economy. Adequate planning

can help to bring about a transition with a minimum disruption of the economy, can release funds for the urgent domestic needs of our nation, and can stimulate thinking about opportunities for further productive use of our resources.

7. Efforts to strengthen international measures against the production and use of chemical and bacteriological weapons. These weapons can be developed with relative ease. Every effort must therefore be made to strengthen international revulsion against the use of such weapons, to seek binding agreements not to use such weapons, and to develop effective control and verification measures to reinforce international restraints.

Some of these steps are already United States policy. Others are not. But in all cases they are first steps which will do little more than freeze the status quo. Their significance will lie primarily in the extent to which they reflect a new, dominating determination to proceed more drastically, so that further steps in the control and reduction of armaments may be achieved.

B. Defense spending and use of resources

1. Significant reduction in United States defense spending and the channeling of the funds into development projects both at home and abroad. The fiscal 1969 United States defense budget equals our total national budget of only a few years ago, surpassing the total national economies of the great majority of nations, including China, and dwarfing our expenditures for both foreign aid and our critical domestic needs. New demands for substantial increases in the already appallingly large military budget are constantly being made.

The seemingly sacrosanct nature of the defense budget, as evidenced by the limiting of calls for economy to "nondefense" spending and by the minimal critical appraisal of its size and content, must be challenged. The imperatives of the Christian faith call for support for the poor and downtrodden, justice for the oppressed, and a responsible stewardship of our wealth and resources. These demands in this case coincide with both the best traditions and the highest interests of our nation. As long as the gulf between the developed and underdeveloped segments of mankind remains and even grows wider, there can be little progress toward a more humane global order or toward reconciliation among men, either at home or abroad. Toward this end, every nation should reexamine its use of its own resources.

For the United States, only a reversal of its national priorities, as those priorities are actually reflected in our national budget, can hope to have a significant effect. A realistic, independent assessment of security needs, free from the rationalizations of dying ideologies and outdated slogans, indicates that we do not need to wait for complex agreements on balanced military budget reductions before some cuts can be made. The termination of the Vietnam war and progress in controlling the arms race could and should lead to defense budget cuts of at least \$25 billion per year.

2. A radical curtailing and strict controlling of the supply of arms to other countries. The proliferation and distribution of non-nuclear weapons, as practiced by the major industrialized nations, tends to fuel regional arms races and regional wars, encourages military government and the suppression of needed social change, and drains from underdeveloped nations critically needed resources for economic development. It also works to undermine both our long-range national interests and the quest for better conditions for an effective work of reconciliation among men.

The supply of sophisticated weapons to underdeveloped nations should be halted. Arms competition with the Soviet Union should stop. The United States, as the largest supplier of conventional arms to other na-

tions, should seek an agreement with other suppliers to form a conventional arms moratorium on certain conventional weapons, such as missiles and jet aircraft. It should also seek agreement on registration of all arms shipments with the United Nations. In the interim it should refrain from further endangering stability, especially in sensitive areas, by unilaterally curtailing its arms transfers. The long-term consequences of the uncontrolled and growing world traffic in arms outweigh any short-term advantage such as influence over military elites or an improved balance of payments. Such a method of solving the problem of international insecurity is demonstrably self-defeating.

C. Peacekeeping, peacemaking, and disarmament

1. An increase in United States efforts to strengthen the United Nations as a peace-keeping and peacemaking agency. In a nuclear age, when no amount of offensive or defensive weaponry can preclude nuclear catastrophe, there seems to be no rational or moral alternative to the development of an adequate system of international collective security under the aegis of the United Nations. An effective United Nations peace-keeping capacity will require a significant measure of Great Power cooperation. They and their principal allies must come to the understanding that unilateral and competitive peace-keeping will be more likely to magnify than to reduce the risk to national security and that a mutually acceptable and manageable way of limiting these risks would be to strengthen the peace-keeping capacity of the United Nations. This could lead to a substantially more effective United Nations, which could replace the military posturing of the worldwide Great Power confrontation and thereby help to relieve the inherent insecurity of nations which are now prisoners of their mutual distrust.

As examples of appropriate efforts we recommend that:

(a) Member nations of the United Nations train and maintain in readiness special forces that would be available for use in United Nations peace-keeping operations. Countries now maintaining forces for United Nations use for peace-keeping operations should be encouraged to make bilateral agreements with the United Nations Security Council, under Article 43 of the Charter, to specify conditions, including financing, for the use of these forces. Other countries should be encouraged to make similar agreements, thus putting on a more permanent basis the availability of national forces to the United Nations.

(b) The United States accept the compulsory jurisdiction of the International Court of Justice. The Congress is urged to repeal the Connally Amendment, which declares that United States acceptance of such jurisdiction does not apply to matters within United States domestic jurisdiction as that is defined by the United States.

(c) All nations be encouraged to seek a nonintervention treaty designed to keep the Great Powers out of local disputes, to provide for United Nations observation machinery in such instances, and to allow for an automatic United Nations investigating force for use in nations that claim they are being subverted. Peace-keeping, if it is not to become war-making, is a task that must be performed collectively.

2. A major and sustained effort by the United States, in conjunction with other nations, for substantial and rapid progress toward arms control and general disarmament. This has been a goal of United States policy since 1961, and since 1962 the United States has participated in continuing international disarmament negotiations with limited but significant success. There must be a constant awareness of the necessity not

to treat disarmament in isolation from the political conditions that cause international tensions or from the total peace-building process—a process that must include measures to enable the United Nations to become an effective agency for keeping the peace. Within such a context, progressive disarmament through international agreement can release the resources and manpower of many nations, thereby making a substantial contribution to the welfare of humanity.

The defense postures and strategies of the major powers both reflect and to some extent perpetuate the distrust and alienation that characterize the fractured international community. In seeking a just and peaceful international order, Christians must first seek to ameliorate the conditions that set men against each other and to create conditions in which reconciliation can take place. In doing this, much of the actual work will of necessity take the form of ground-clearing and obstacle-removing, clearing the way for a new approach to the issues of defense and security.

Present policies call into question our stewardship of our God-given resources, our national sense of priorities, and our wisdom in the management of power. A serious examination of the assumptions behind these policies, and their actual effect on real security in our revolutionary world, could greatly improve the chances of at least a limited Great Power accommodation so necessary for a just peace and a stable international order. It is in such accommodation and the "technical" measures of arms control that will result, as much as it is in zealous advocacy of peace in general terms, that our hope lies for avoiding disaster and for improving the conditions for reconciliation among nations.

But in order to achieve these measures it is necessary to stop thinking in obsolete terms. There must be a new context for looking at defense matters, requiring on the part of churchmen and all citizens a change of concepts, disposition, will, and determination. Such a reorientation can bring the United States to use its power in the years ahead to secure the development of nations and peoples, including its own, and to establish the international structures necessary for world order, justice, and peace. Only such a reordering of priorities can lead us toward real security.

Today's colloquy on ABM has generally concentrated on the external forces which have led to the initial deployment decision. I recognize that external pressures hold a key place in the ABM controversy. I would again want to emphasize that we must not be deluded from recognizing that internal factors have played a dangerous and leading role in the push for ABM.

Ever since the Vietnam war escalations, policymakers here in Washington have acted as if all national priorities were predicated upon the direction of events in Southeast Asia. That is, domestic policy was secondary to foreign policy. The result has been a festering of the ills of our cities and a decreasing of hopes and aspirations for a better life by millions of poor Americans while we continue to pour billions of dollars into a wasteful war. Very few persons have gained from such a ranking of priorities, and, many—both at home and abroad—suffered greatly.

Today, with whatever chances we have of peace in Southeast Asia beginning to brighten slightly, policymakers again are faced with making hard choices. Where we go from here can be dictated

by a commitment to some rational sense of priorities, or we can be thrown back into the morass of frustration once more.

Our decision on ABM will be pivotal. If we bow to the superhawks, to the scarce-merchants, to the profiteers, we will only be enhancing the arms race. In the end, relatively few will gain—if any at all—and perhaps the whole world will suffer.

In conclusion, Mr. Speaker, I would just like to say that I hope we can devote more time to an analysis of the profound implications of this issue which, despite the very excellent debate this afternoon, we have only begun to touch upon in terms of all of the various things that need to be brought into this discussion. I would be very, very unhappy if I thought that we were progressing on a tragic course as a result of political decisions made in 1967, for which there is no longer any validity, and that we do not have the guts here in this Congress to rise up and to question whether or not the basic security of this country is going to be furthered or hindered as a result of actions which we take.

Again I thank the gentleman for yielding me this time.

Mr. GIAIMO. Mr. Speaker, will the gentleman yield?

Mr. REUSS. I yield to the gentleman from Connecticut.

Mr. GIAIMO. Mr. Speaker, I thank the gentleman for yielding.

I want to commend the gentleman from Indiana who posed several questions that I believe bring this debate and discussion into real perspective, and I am delighted that the gentleman did so, because to me it indicates the very essence of what we are discussing here, and what we are trying to accomplish here, and that is a full-scale review of whether we should continue along the lines we have already adopted through authorization and appropriation for the Sentinel system.

But the gentleman from Indiana raised a question which is significant, wherein he stated that he was concerned by the fact that some statements were made here today that indicate that if we did not spend the money for defense items such as the ABM system, we would have this money available for expenditures on some of our other needs, particularly the needs of a domestic and urban nature.

I agree with the gentleman from Indiana that this should not be an "either-or" proposition, or a guns-or-butter proposition, because I certainly feel that the highest priority that we as a nation can have is our defense and our safety, as a nation.

Our defense capability, therefore, must be adequate to assure this, because if we do not have this we will not exist as a nation, and will not be able to do any of the things which must be resolved in the cities.

Certainly we should not put this debate on the plane that if we save the money in defense, or ABM systems, we would then have this money available to use in our cities.

I believe that would be an ill-advised argument on whether or not to go ahead

with the ABM system. I believe the ABM system must stand on its own feet as to whether or not it is an effective weapon in our arsenal of defense.

The other question that was raised then was: Why, then, if there is so much opposition to it does the military feel disposed to proceeding and going ahead with it?

It has been obvious for quite a few years there has been opposition to the development of an ABM system. Former Defense Secretary Mr. McNamara was opposed to it until he decided otherwise at a later date. Former Presidents have been opposed to it. I understand that President Eisenhower was opposed to it and that President Kennedy was not disposed toward deploying an ABM system. The same is true so far as President Johnson is concerned and President Nixon at this very date wants a full-scale study into this matter to decide whether or not to proceed.

Of course, the military has been in favor of it. I have the highest regard for the military. They are our experts in this area.

But it is up to us as civilians to tell them when to put the brakes on because they would otherwise have us proceeding with all forms of weapons expenditures as they did in the case of the B-70 or in the case of the Skybolt and perhaps in the case of the F-111.

But we have responsibilities as civilians after being given the facts by our military experts to determine whether or not we should proceed in this area.

I suspect the reason we have so much opposition by the former administration to the deployment of the ABM system and then subsequently were told that it was in our best interest to proceed with an anti-ballistic missile system last year—I suspect the reason for that change in position was not so much that it was not scientific and not based on whether or not it would work effectively as a defense weapon, but in fact that it was a political decision—political in the international sense. Because of the fact the Russians had deployed a system around Moscow and Leningrad and because we were planning to negotiate and to talk with the Russians on the reduction of nuclear weapons and nonproliferation and armaments in general.

I believe it became a political weapon—that we would be in a better bargaining position with the Russians if we were to deploy an ABM system.

My answer to that is that we are not in a better bargaining position if we deploy an ABM system which will not be effective. The greatest weapon that we have in any discussion with the Russians and the greatest argument we have with them is—you do not have a first strike capability against us and we do not have one against you.

To assure that we do not lose out on our side insofar as any nuclear deterrent is concerned, we must rely, as has been said time and again on this floor—we must rely on our offensive weapons that the Russians know about and are aware of. If they realize and recognize the strength of our offensive weapons and they do not have a first strike capability

against us, then this is the greatest weapon that we could have in any forthcoming discussion with the Russians to reduce armaments and to reduce the threat of nuclear war.

I think this is the reason why there was a change of position by the former administration when it suggested to the Congress to change our position and that now we should go ahead with the deployment of an ABM system. I think it is faulty and I do not think it will really give us an edge with the Russians. I think we will be expending billions of dollars and not be coming up with an adequate defense system. We will, in fact, have accomplished nothing but increased the escalation in nuclear power both in our own arsenal and in the Russian arsenal.

Mr. LEGGETT. Mr. Speaker, will the gentleman yield?

Mr. REUSS. I yield to the gentleman. (Mr. LEGGETT asked and was given permission to revise and extend his remarks and include extraneous matter.)

Mr. LEGGETT. Mr. Speaker, I thank the gentleman from Wisconsin for yielding.

Mr. Speaker, I think the debate today led by the gentlemen from California and Wisconsin and by the gentleman from Illinois who I understand will follow shortly—this discussion of the ABM system is probably the most important thing that we will do in this House perhaps this year.

I was concerned last year when the Senate—I think a third of the Senate was exercised enough to vote against this system and still we had a very difficult time in bringing this body up to speed with respect to these problems of deployment of this ABM system.

About 7 months ago the question of anti-ballistic-missile deployment was debated on this floor. At that time with others I made a number of objections to the deployment program. Since that original debate, there has been a mounting escalation of criticism by both the public and the scientific community, as well as by many of my distinguished colleagues on this floor and in the Senate. There is good reason for this growing disenchantment with the proposed deployment of the Sentinel ABM system. This program was conceived as the ultimate deterrent to enemy nuclear aggression, yet the best scientific advice agrees that the defensive shield it is supposed to afford is but a sieve that can be easily penetrated by over-targeting the defended area with enough missiles to exhaust the system, or by the use of semisophisticated decoy or screening devices. I made these arguments last year, and I restate them again today. The arguments were valid 7 months ago, and there has been no indication that the technical situation has changed. The proposed system is still a "maginot line."

A very readable and excellent summation of the technical deficiencies in the Sentinel system was published in the March 1968 issue of Scientific American by Nobel laureate, Hans Bethe, and Prof. Richard L. Garwin. I would again commend this article to my colleagues.

The arguments presented in this article

have not been successfully contested, but have in fact been buttressed by the leading members of the scientific community, including all the past scientific advisers to the Presidents—inarguably, a distinguished group.

In September of 1967, this ABM program got off the ground with a speech by the then Secretary of Defense McNamara. In this speech, the Secretary proposed the establishment of the system, but qualified his endorsement of the concept very strongly. These qualifications stand out as prophetic and bear repeating again today. Here I quote:

There is a kind of mad momentum intrinsic to the development of all new nuclear weaponry. If a weapon system works—and works well—there is strong pressure from many directions to procure and deploy the weapon out of all proportion to the prudent level required.

The danger in deploying this relatively light and reliable Chinese-oriented ABM system is going to be that pressures will develop to expand it into a heavy Soviet-oriented ABM system.

We must resist that temptation firmly—not because we can for a moment afford to relax our vigilance against a possible Soviet first strike—but precisely because our greatest deterrent against such a strike is not a massive, costly, but highly penetrable ABM shield, but rather a fully credible offensive assured destruction capability.

I would say that we are not just a group of unilateral disarmers here today, those that are making some remonstrance with the expenditure for the ABM system. I think the reason for it is the fact that the Department of Defense has not made out their *prima facie* case. When they came before my House Armed Services Committee, they indicated that this was going to be a \$5 billion system, that it had been reasonably thought out, that the costs were reasonably within control. However, they admitted that the system would not be good as to a cruise missile, it would not be good as to a fractional orbiting missile, it would not be good as to multiple missiles, and it would not be good as to the MIRV or the independent reentry vehicle.

A few moments ago the gentleman from Indiana said, "Well, wouldn't you be cut short, you folks, if the Chinese lobbed a missile over in your direction in about 3 years and you did not have a defensive system?"

Well, the point is that in about 3 years this system will not have been completed. We are going to spend \$2 billion this year, and we are not going to have any defense this year. We are not going to have any defense in 1970, we are not going to have any defense in 1971, 1972, or 1973—maybe in 1974 or 1975 if these ideal conditions arise, where we build our system and the Chinese have developed a very unsophisticated system of about 30 missiles, according to the best scientific advice that we have today. We will be able to knock out about 80 percent of those missiles, and that will be good for maybe 1974 and 1975. But then in 1976, 1977, and 1978, when the Chinese develop a capability of 40, 50, or 60 missiles, then our defensive capability with our current technology devolves from about 80 percent down to about 15 per-

cent. Then what we suspect is that the Department of Defense is really engaged in the most fallacious and speculative investment ever known to mankind, because what they want to do is not to spend the \$5 billion that they said they wanted to spend last year, but to spend the \$9 billion that they have said they want to spend this year to build the system, and perhaps another \$40 billion in trying to keep pace with the State of the art and with the developments of the Chinese.

We know—and an article was published the other day on this subject—that when you are trying to build a system based on a high-risk development, the costs are generally 250 percent of your minimum estimate. The minimum estimate of a fixed system to handle a complex Russian system is \$50 billion—250 percent of that amount is a good figure. For those of you who think that we are going to be disarmed if we do not build this system, keep in mind where we are. My colleague from southern California mentioned a moment ago that perhaps we cannot afford this system. I think he is dead right. I think we should keep in mind that in spite of the fact that we have toned down the war over the past 4 months, our defense budget is \$2 billion more than last year and at about \$83 billion. We still have an obligation of \$6 billion to cover the cost of past wars and benefits for veterans. That brings the amount to \$89 billion. We have \$2 billion from space fallout for defense; we have \$1 billion cost of atomic energy in fallout for defense, and a \$16 billion interest share of our national debt, which is the cost of past wars.

I think we are paying about \$107 billion in expenditures for defense, directly, and indirectly, and we are trying to live off an administrative budget income this year of, I think, about \$135 billion.

But we have got a lot of things on the shelf we are moving ahead with. There is the thing called VFX. We are hearing a lot about that. We think it is good. It is a \$2 billion system. There is a new fighter aircraft for the Navy. They did not like the F-111-B program. There is another program which is a new fighter for the Air Force, which is a multi-billion-dollar program. We have a lousy antisubmarine warfare program, so we are going ahead with a VFX program. We have an intermediate interceptor program that we have to move ahead with because it is essential for defense of our coast. That is a billion-dollar program. We want to move ahead with advanced manned supersonic attack aircraft, which is essential for our defense.

I do not say this to burlesque these points at all. The vast majority of our defense-oriented committees believe these programs are essential for our future military posture. We are moving ahead with an MOL program and we have \$6 billion in that this year.

What I have described is about \$17 billion of new defense programs.

The reason we are against this program is the fact that to date it just does not make any sense.

Why did the Department of Defense move ahead with it a year ago? I think

one of the reasons was the fact that, as explained by my colleague from southern California (Mr. Brown) we did not want an anti-ballistic-missile gap to evolve for the elections. Second, we were caught about a year and a half or 2 years ago, when we discovered, as appeared in the newspapers, that our national intelligence estimates were 25 to 30 percent off base with respect to anticipated capability of the Soviets. We got nervous and decided to employ a light Chinese system.

Mr. McNamara, our great former Secretary of Defense, stated the case for the light ABM system, as was specified by the gentlewoman from Hawaii, but he said:

Do not get this mixed up with defense against the Soviet Union. We do not have a capability to handle the Soviet Union.

Why did he say that? It was not to confound necessarily the missile abatement talks, but for the simple reason that we are worse off against a sophisticated country like the Soviet Union with a poor ABM system if we say the purpose of this missile system is to defend against a sophisticated system.

Why is that? Because today Moscow is worse off because of the Galosh system than before they developed the Galosh ABM system. Why? Because we changed a few settings on our computers to make sure we do the job in Moscow. What is going to happen now, if we develop this system, to Boston or to San Francisco?

The computers are already set. All we had to do was to say what the President said a few days ago, and I think it bears repeating. Of course, Secretary McNamara warned against expanding the system and against expanding the reason why we are putting in the system.

But that is exactly what is happening. First we are asked to approve a highly debatable Chinese-oriented system. When the criticism mounted as to the effectiveness of this Chinese system, the President on February 7 of this year at a press conference fielded the following question:

Mr. President, you know the ABM system was planned originally to protect us against the threat of a nuclear attack by Red China early in the 1970's. Does your information indicate that there is any lessening of this threat, or greater, or just where do we stand?

The President answered:

First, I do not buy the assumption that the ABM system, the thin Sentinel system, as it has been described, was simply for the purpose of protecting ourselves against attack from Communist China.

This system, as are the systems that the Soviet Union has already deployed, adds to our overall defense capability. I would further say that, as far as the threat is concerned, we do not see any change in that threat, and we are examining, therefore, all of our defense systems and all of our defense postures to see how we can best make them consistent with our other responsibilities.

I say when he said that we blew the ball game. Unless the Department of Defense can come before our House Armed Services Committee this year and show us they can make out a prima facie case for a reasonable expenditure against the

Soviet Union, the better part of sanity for us is to go slow on this program.

Of course, Bob McNamara said that if we had deployed the Nike-Zeus system at the time a lot of people wanted to deploy it, then we would have totally wasted about \$2 billion to \$3 billion, because the next state of the art came forward with the Sentinel system here, about 2 years ago, and we would have had to change it. We have had to do this on a number of occasions.

This change in emphasis from Chinese defense to Soviet defense is exactly what Secretary McNamara warned against, and the new reasoning is absolutely fallacious. We have a system which is marginal even against a simple but concerted Chinese attack, and yet when this system is questioned, the answer is that it is actually destined to be a defense against a far more deadly Soviet attack. I ask again, how can a weapon marginal against a mouse be useful against a bear?

This is exactly what is happening with the current ABM system. We had \$1 billion in the budget as of last summer. I hesitate to imagine how much of that \$1 billion has been spent.

Now that the opposition to the ABM is growing, confusion reigns among the ranks of the committed. Last year in the Armed Services Committee we were treated to a well-organized argument clearly designed to prove the efficacy of the proposed ABM system. Now when concern has been expressed across the board, the proponents of the system are treating us to an array of contradictory statements and opinions that indicate only one thing—no one seems to know where the program is going. The original plan envisioned a system of city defense against a light Chinese attack. The President states that the system may actually be directed toward a Soviet attack. The Pentagon indicates that possibly a "thinner than thin" system is advisable—one that will protect the hard site missile bases only. Mr. RIVERS, my chairman of the Armed Services Committee, indicates that the whole concept of missile defense must be gone over with a view to looking at the options of entirely new systems, perhaps possible seaborne or airborne. I think he is right.

The proponents argue that we must have the system in the deployment stage before we enter into talks with the Soviet Union, so as to use the deployment as a bargaining point with the Russians. On this question, I can see no conceivable reason to spend billions of dollars on a highly speculative system just to use it as a bargaining position in talks that have not been scheduled with a country that has already experimented with an ABM system of its own, and which according to the best intelligence estimates is not going forward to completion because of serious doubts as to its effectiveness. How can we seriously confront the Soviet Union with an ABM system in negotiations when the Soviets themselves know it is useless against a concerted attack? Moscow is admittedly worse off today because of our over-targeting response to the ballistic system.

Secretary of State Rogers on the other hand feels that such missile talks should precede deployment of the system.

I agree with him.

Out of this confusion one thing is clear—there is considerable confusion on the part of the administration and the proponents of the present ABM program on both the direction the program should take and the goals that should be sought. The opponents of the system are disaffected with the whole idea and are confounded on every turn by the contradictory replies.

The only sensible action that has been taken on ABM has been the recent halt in site acquisition and deployment. It is eminently clear that this halt should be continued until a full scale hearing is held in which all members of the scientific community are able to state their views on the value of this multi-billion-dollar boondoggle. I, for one, am not willing to continually accept the assurances of the military that all counter arguments have been fully explored and their presentation is the culmination of a totally objective indepth study. Experience has too often shown that the military does not come totally clean with us.

Last year I had the opportunity to question General Starbird, manager of the Sentinel system, in committee hearings. After a detailed and articulate presentation of the Sentinel program, the General during questioning indicated that the price guidelines could be pretty closely adhered to. Yet now, we read that the original \$5 billion figure for the Chinese-oriented system is reaching up to \$9 billion.

I was unhappy with the responses to my questions last year, and I am not any happier now.

There is absolutely no sense in authorizing and appropriating funds at the rate of over \$1 billion a year for a program that could easily be a gigantic mistake. We must settle down and figure out the direction we are taking before we put one more dollar into the hardware for this program.

[From the New York Times]

PENTAGON CONCEDES SENTINEL WOULD COST MORE THAN ESTIMATE
(By John W. Finney)

WASHINGTON, February 11.—The Defense Department said today that the \$5.5-billion cost estimated for the Sentinel missile defense system represented but the first installment on an effective defense against the Chinese missile threat.

Just how much height the cost of the Sentinel system might go, the Pentagon was not prepared to say. But a spokesman, in response to inquiries, acknowledged that additional sums would be needed as Communist China developed more sophisticated intercontinental missiles carrying decoys to confuse a defense system.

In Congressional testimony made public today, the Defense Department explained that the Sentinel missile bases were being located in urban areas to provide an eventual defense against a "sophisticated" Chinese missile attack.

In its initial deployment, the Sentinel system is designed to deal with the relatively simple missiles with single warheads that Communist China might be able to fire at the United States by the mid-seventies. But as the Chinese develop their missile tech-

nology, the presumption is that within a few years they could add decoys to the warheads and otherwise make interception more difficult.

The Pentagon also pointed out that nuclear warheads for Nike-Hercules antiaircraft missiles had been stored in certain urban areas since 1958 without any adverse public reaction. It acknowledged, however, that the public had never been informed which of the missiles were armed with nuclear warheads and which were not.

Between the rising costs of the Sentinel system and the Army's decision to locate the nuclear missile bases in populated areas, the Defense Department is finding itself caught in a rising crossfire of Congressional opposition to deployment of the Sentinel system.

When deployment was authorized last year, Congress was led to believe that the missile defense bases would be located some distance from population centers.

The impression was also conveyed by the Defense Department and its spokesmen in Congress that the \$5.5-billion figure represented the best estimate of the cost of establishing a "thin" defense against the Chinese missile threat.

What was not made clear last year in Congressional testimony or debate was that the Defense Department viewed the initial \$5.5-billion system as but a start in a system that would grow and become more complex as Communist China improved its missile force.

As initially presented to Congress, the Sentinel system was to provide "area defense" for the entire United States through a complex of radar and missile bases firing the Spartan missile. With its two-megaton warhead (equal to two million tons of TNT) the Spartan is designed to intercept and destroy an incoming ballistic missile warhead from 400 to 500 miles away.

In the controversy developing over the selection of Sentinel bases, it is now coming out that the Army is designing and building the system so that it can be enlarged to fire short-range Sprint missiles. With their 10-kiloton warheads (equal to 10,000 tons of TNT) the Sprint missiles are designed to provide close-in defense against warheads that penetrate the "area defenses" of the Spartan missiles.

SHORT RANGE A FACTOR

In an attempt to meet some of the Congressional criticism, Lieut. Gen. Alfred D. Starbird, Pentagon manager of the Sentinel system, was called before the House Appropriations Committee in mid-January for a secret hearing.

In his testimony, made public today, General Starbird explained that missile bases near urban centers were being chosen so that the Sentinel system would eventually be capable of defending against a Chinese missile attack using decoying warheads.

To meet this "more sophisticated threat," he said, Sprint missiles will have to be added to the Sentinel system. Because of their relatively short range of around 50 miles, however, the Sprint missiles would be ineffective in defending a population center unless the bases were situated nearby, he explained.

The Pentagon said the cost of adding the Sprint missiles was not included in the \$5.5-billion estimate presented to Congress. A Pentagon spokesman said that even a rough estimate of the cost of adding the Sprint missiles could not be made available.

Senator Stuart Symington, Democrat of Missouri, a senior member of the Senate Armed Services Committee, estimated last week that the Sentinel system would cost \$9.4-billion. This higher cost estimate, according to a Symington aide, was based on the normal cost escalation encountered in new weapons systems and did not include the addition of the Sprint missiles.

If the Symington estimate is correct—and there is reason to believe he obtained his es-

timate from Pentagon sources—the cost of deploying an anti-Chinese missile defense system could substantially exceed \$10-billion once the Sprint missiles were added.

In his heavily censored testimony, General Starbird said the principal criterion for Sentinel base sites was that they be "tactfully effective . . . both now and for a long range future if and when the Red Chinese may have penetration aids."

"There is no indication as yet," the general said, that Communist China is developing penetration aids, such as metallic chaff, light balloons or decoys designed to confuse the defensive radar so that it cannot pick out the actual warhead.

But he made clear that the Pentagon was proceeding on the assumption that Communist China could and would add such penetration aids to its intercontinental ballistic missiles. And once they are added, he continued, the Spartan missiles would have "only limited capability" in protecting populated areas.

The reason, he explained, is that the threatening warhead would not be picked out by the radar until shortly before it reached its target, thus making it impossible to commit the Spartan to a long-range interception.

As an example of the long-range need for locating Sentinel bases near cities, General Starbird cited the selection of Libertyville, Ill., some 25 miles northwest of Chicago, as one of the sites. He made it clear that, while there was "no current plan" for installing Sprint missiles at Libertyville, the site was selected with that in mind.

[From the New York Times, Feb. 24, 1969]

THE SENTINEL AND THE TREATY

In his questioning of Secretary of State Rogers on the nuclear nonproliferation treaty, Senator Albert Gore has exposed a fundamental inconsistency in the Administration's apparent resolve to push ahead with some sort of Sentinel antiballistic missile system—a resolve made more explicit last week by Secretary of Defense Laird. Mr. Gore noted that under Article VI of the treaty the nuclear powers undertake "to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament."

The Sentinel program provides a critical test of how seriously the United States views its obligations under that article. If there is a "good faith" interest in nuclear disarmament, then the logical step would be to postpone deployment of the Sentinel system while the United States enters into negotiations with the Soviet Union to limit offensive and defensive strategic missiles. If, instead, the Administration decides to proceed with Sentinel deployment on the distorted logic that accelerating the atomic arms race somehow leads to nuclear disarmament, then it will be apparent that the United States regards Article VI as little more than a pious statement imposing no obligations upon the nuclear powers.

Something far more important is at stake, however, than just this country's interpretation of Article VI. At issue is the whole future of the treaty, a matter that is likely to come up in President Nixon's European discussions this week.

So far as the non-nuclear states are concerned, the article was one of the more important concessions made by the two major nuclear powers in drafting the treaty. If the United States and the Soviet Union now indicate that they do not feel bound in any way by the article, then some of the more important non-nuclear states, such as Japan, Israel and India, can ask with good reason why they should take the treaty vow of complete nuclear abstinence.

By proceeding with the Sentinel system, therefore, the United States can jeopardize the nuclear nonproliferation treaty. Even if

the military utility of the system were much less dubious than it is, this would be a bad risk to run. In the long run, the spread of nuclear weapons undoubtedly presents a far greater danger than the still non-existent nuclear missiles in Communist China or the unproved usefulness of Sentinel as a bargaining counter in arms talks with Moscow.

[From the Washington (D.C.) Post, Feb. 17, 1969]

THE BIG ABM BRAINWASH

There is more, obviously, to the Great Debate over the Sentinel ABM System than has hitherto met the eye, judging from a report on the front page of this newspaper yesterday. The report told of two memoranda to former Secretary of Defense Clifford last fall. One was from the present Secretary of the Army, Mr. Stanley R. Resor, and the other, a supporting document from the manager of the project to build the Sentinel System, Lt. Gen. Alfred D. Starbird. Together they spelled out in breathtaking detail a complex and comprehensive public relations—*not to say propaganda*—campaign to convince the American public, and Congressional critics, and wayward scientists and the citizens residing in or around prospective Sentinel sites that in every way these weapons are good for you.

A perfectly respectable case can be made that, within reason and suitable limits, they are; something must have recommended the project to two successive Defense Secretaries in the Johnson Administration. And if the Sentinel is not in fact as essential to our security as it is said to be, there would still be nothing wrong about the Army arguing the point. We pay our military men to tell us what we need for our safety, and we expect their civilian leaders and the Congress to weigh the merits of the military arguments, and cast them up against our other priorities, and make a judgment that takes more than the military view of things into account.

So there is no quarrel here with the right of military men to make their pitch and there was very little in the Resor and Starbird memoranda that added anything new to the Army's argument. What the Army was proposing to say about the Sentinel, in short, was not the startling thing about these memoranda to Mr. Clifford. What was astonishing and disturbing—the part that had not met the eye—was the way the pitch was to be made, the sweep and intensity of the Army's intended campaign. That, and the plain evidence that an important part of the whole operation was clearly calculated *not* to meet the eye; the Army's hand was not supposed to be visible. That's what is genuinely unsettling—the suggestion, for example, of clandestine complicity with the contractors for the Sentinel program in carefully coordinated public relations undertakings to tout the virtues of this weapons system; the unabashed intention to plant or inspire favorable magazine articles by scientists who are proponents in direct response to opponents of the program within the scientific community.

"Several highly placed and reputable U.S. scientists have spoken out in print against the Sentinel missile system," Mr. Resor wrote to Mr. Clifford, and after naming a few of them (Hans Bethe, George Kistiakowsky, Jerome Wiesner) and complaining of the difficulty of replying without disclosing secrets, he went on to say:

"It is essential that all possible questions raised by these opponents be answered, preferably by nongovernment scientists.

"We will be in contact shortly with scientists who are familiar with the Sentinel program and who may see fit to write articles for publication supporting the technical feasibility and operational effectiveness of the Sentinel system.

"We shall extend to these scientists all possible assistance."

So there it is, and what are we to make now of the next learned dissertation published by a scientist in favor of the Sentinel? Will it be his handiwork, or General Starbird's? And what are we to make of some of the other aspects of this campaign—the instructions proposed by the General, for example, that "personnel affiliated with the Sentinel Public Affairs Program will cooperate and coordinate with industry on public relations efforts by industries involved in the Sentinel Program"? Will Army officers write the advertising copy, or merely furnish the photographs of successful missile shots?

There is less to be said against some of the other, more conventional plans, for a heavy round of visiting with Congressmen and Governors and Mayors and community leaders and editors and publishers, for example, except that you do have to ask what all this is going to cost: the junketing, the mobile displays, the preparation of information kits and a library of useful quotations, the film clips and taped interviews and all the rest.

But mostly you wonder whether this isn't too much—too covert, too all-pervasive, too overpowering. For if this is standard operating procedure, as they say, for the Army, and for all its works, it presumably is standard for other services, too. And this adds up, in our view, to a good deal too much brainwashing of the American public and a good deal too much intrusion by the military into American political life.

If this is what's going on, it is too much. In any case we'd like to know. The Sentinel is too serious an issue to be settled by an Army propaganda campaign, on the one hand, or by a counter-reaction to such a campaign, on the other, by the antipathy to the idea of the citizens in one community, or by anything other than the merits of the matter and a balanced reckoning of where our national interest lies. That the Army should embark on so massive a public relations campaign, so far in advance of Congressional approval of the project, and by the use of such dubious methods, is a thing apart, though no less important on that account, and one which we would hope the Congress would also like to know a good deal more about.

(Mr. LEGGETT asked and was given permission to revise and extend his remarks and include extraneous material.)

THE ABM SYSTEM

The SPEAKER pro tempore (Mr. STRATTON). Under a previous order of the House, the gentleman from Illinois (Mr. YATES) is recognized for 30 minutes.

Mr. PIKE, Mr. Speaker, will the gentleman yield?

Mr. YATES. I yield to the gentleman from New York.

Mr. PIKE. First I want to thank the gentleman from Illinois and the gentlemen who have taken the time previously for discussion of this very important matter. It is one of those rare days on the floor, when discussing a military situation, I find almost nothing with which I can disagree.

There is one item which we might consider, in talking about this. When we get into all the technology involved in the ABM system, let us assume that we could build a system which could technologically intercept everything the Chinese threw at us. We still would get involved in a situation which we have seen entirely too frequently in the last few years, and that is the command and

control problem, the business of making the decision to utilize this system.

We had a situation with a ship called the *Liberty* and the messages which did not get through. We have had situations with other ships. We have had other kinds of situations.

Assuming the very best in this system, that we detect the launch of an enemy missile immediately upon launching, from that time we have roughly 30 minutes to make the decision to launch the ABM's against it. I question very seriously, even assuming all of the technological know-how in the world, that we are geared in the command and control area to utilize all of these billions of dollars that we are going to spend.

I have tremendous respect for our technological capabilities, but there are always human elements involved. I have opposed the deployment of this particular system for some 2 years now.

(Mr. PIKE asked and was given permission to revise and extend his remarks.)

Mr. PIKE. Mr. Speaker, 2 years ago, when the House Armed Services Committee reported favorably on the Defense procurement authorization, only two members of that committee, the gentleman from Michigan (Mr. NENZ) and I spoke out against the inclusion of an anti-ballistic-missile system in that procurement. Then it was called the Nike X, and I quote part of our minority statement at that time:

At the present time the United States and the Soviet Union are engaged in extremely complicated and sensitive negotiations seeking to limit in some meaningful and responsible manner a major new round in the continuing cycle of increased armaments and increased spending for armaments. The Joint Chiefs of Staff have endorsed these efforts and so do we.

The committee report states that regardless of the outcome of these negotiations "the committee strongly believes that the thin deployment would be a useful first step toward meeting the defense needs of the Nation in protecting against ballistic missile attack from any hostile nation."

First, the report clearly shows that the so-called thin deployment which they recommend (costing \$4 billion) is capable only of protecting us from an unsophisticated attack by the Red Chinese in the 1970's (\$3.5 billion) plus a defense of our own strategic offensive forces (\$500 million). Everything in the report, however, looks toward moving from the "thin" defense to the so-called posture A deployment, optimistically estimated at \$9.9 billion and accurately described in the report as "a light defense against a Soviet missile attack on our cities." In the language of the majority, it's like "learning to walk before trying to run."

From there, the next logical step would be to advance to posture B, optimistically estimated to cost \$19.4 billion and accurately described as a heavier defense also designed against a Soviet attack on our cities—some of our cities, but obviously not all of them. The Secretary of Defense has estimated the cost of a missile defense would grow to \$40 billion over a 10-year period. Whether we stay with the "thin" defense, or move to posture A or posture B, the main thing is to get on with it, says the majority.

We believe that if we as a nation are serious about trying to prevent a new arms race with the Soviets, the Armed Services Committee has a responsibility beyond that of advocating just such a new arms race.

Regardless of whether it costs the \$19.4 billion that the military predicts, or the \$40 billion that the Secretary of Defense predicts—regardless of whether the Soviets do not react at all (thereby reducing American fatalities from 120 million in an all-out exchange to 'only' 30 million dead) or whether they react the same way we are reacting (thereby leaving American fatalities at 120 million), we would embark upon such a deployment reluctantly, not with a feeling of joy in our military achievement, but of sorrow in our human failure.

With a minor change here and there the same statement could be made with the same validity today. The gentleman from Michigan and I note that similar doubts as to the need for this system have arisen in the committee itself, in the press, in the scientific community, and, I assume, in the White House itself.

I have promised my district that my highest priority in this Congress will be an effort to find areas in which we can cut down on our massive arms budget without jeopardizing our national defense posture, and because of that promise, and my continuing doubts as to the necessity and usefulness for this system, I must protest again today against deploying it.

Mr. YATES. Mr. Speaker, a few days ago the press carried the story that a massive public relations campaign had been launched by the Pentagon to sell the Sentinel ABM to the American people. It was revealed that every propaganda resource at the Army's command was to be hurled into the effort to convince the public that this highly questionable exotic system was vitally essential to our national security. Army officers, men, and machines were to be used, of course, but this was only the beginning. The defense contractor corporations were to be enlisted, newspapers, TV, radio, veterans' organizations, ladies' clubs—the whole works were to be employed, all stops pulled. The orders came directly from the Secretary of the Army himself. This could well be the military-industrial complex's finest hour—a real triumph. And the interesting and amazing part of the campaign was that it was to proceed even though the question of continued deployment of the Sentinel was presumably under scrutiny and review.

You will recall, Mr. Speaker, how some weeks ago with much fanfare the new Secretary of Defense, our old friend Mel Laird, announced he was going to make a complete review of the Sentinel. The Congress and the country thought it was to be a full, fair, and impartial reassessment, and those of us who oppose the system were confident that such a review would result in suspending its further deployment. But it is now apparent that no such review was planned or contemplated and that in fact the heralded review will be no review at all. With each passing day the new Secretary makes statements which indicate that his mind was made up from the beginning, that he is not reappraising the question as to whether or not the Sentinel should be deployed, but rather, how it is to be deployed, that he never intended to question the worth or validity of Sentinel, but only to find a deployment of the missile sites which would be more acceptable to

the public and which would serve to abate the rising storm of public protest.

The arguments he has presented add little of merit to the inadequate justification previously advanced for deployment of the Sentinel. In great measure they serve only to cloud the issue, for he has engaged in what can only be described as a spurious numbers game, in which he presents comparative Soviet and American military expenditures to sustain his position. The Russians, he says, have spent \$3.7 on defensive strategic weapons for every dollar we have spent on such systems. In the area of offensive strategic weapons, they are outspending us \$3 to \$2.

Assuming that what he says is true, one is tempted to reply. "So what?" The real question is, Are their military capabilities greater than ours as a result? Is our national security in jeopardy? We are not engaged in a spending contest as such with the Soviet Union, except insofar as spending is necessary to achieve our goals. It surely is not the task of the Department of Defense to guarantee that no nation spends more on weaponry than the United States. Rather, it is its responsibility to provide for the military security of the Nation in the most economical and effective manner.

If the Soviet Union wants to squander its rubles on defensive ABM systems that do not increase its security, then let the Soviet Union do it. But we are certainly under no obligation to match those mistakes—or to match the money it expends for that purpose.

And, Mr. Speaker, in spite of Russian expenditures, it is clear that the Soviet ABM cannot withstand the might of the U.S. offensive missile capability. That is clearly stated in hearing after hearing by all our experts. It is difficult to understand, therefore, why proponents of the Sentinel ABM point with such trepidation to the meager effort of the Russians in building their Moscow missile sites, and why they foster the illusion that an effective ABM system is presently possible.

Mr. COHELAN. Mr. Speaker, will the gentleman yield?

Mr. YATES. I yield to the gentleman from California.

(Mr. COHELAN asked and was given permission to revise and extend his remarks.)

Mr. COHELAN. I thank the gentleman from Illinois for yielding.

I think it would be appropriate at this time to get this into the Record. I am quoting from a very reliable paper in which there is given the United States and Soviet intercontinental strategic nuclear forces, and I shall also supply this for the Record. But, briefly, it shows that as of October 1968 we have 1,054 missiles as compared to the Russians' 900. As far as the sea-launched ballistic missiles are concerned we have 656 as compared to the Russians' 75 or 80. The total intercontinental missile launchers are 1,710 on our side and about 980 on the Russian side. Our bomber force consists of 646 to 155, and that is the top of the range. We have a total force loadings, the approximate number of deliverable warheads, of 4,206 on our side as of October 1968 according to this estimate

and 1,200 on the Russian side. It is overwhelming.

Mr. Speaker, I ask unanimous consent to insert the table to which I refer at this point in the Record.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from California?

There was no objection.

The table referred to follows:

TABLE I.—UNITED STATES VERSUS SOVIET INTERCONTINENTAL STRATEGIC NUCLEAR FORCES

	United States, October 1968	U.S.S.R.	
		October 1967	October 1968
ICBM launchers ¹	1,054	720	900
SLBM (Sea-launched ballistic missiles) launchers ²	656	30	75-80
Total intercontinental missile launchers.....	1,710	750	975-980
Intercontinental bombers ³	646	155	150-155
Total force loadings, approximate number of deliverable warheads.....	4,206	1,000	1,200

¹ The size of the U.S. strategic force has not changed significantly since mid-1967.

² Excludes ICBM test range launchers which could have some operational capability against the United States. The Soviets also have medium range ballistic missiles (MRBMs) and intermediate range ballistic missiles (IRBMs) which are capable of striking Eurasian targets.

³ In addition to the SLBM's on nuclear-powered submarines, the Soviets also have SLBM's on diesel-powered submarines, whose primary targets are believed to be strategic land targets in Eurasia. The Soviets also have submarine-launched cruise missiles, whose primary targets are believed to be naval and merchant vessels.

⁴ In addition to the intercontinental bombers, the Soviets also have a force of medium bomber/tankers capable of striking Eurasian targets.

Source: Department of Defense, Secretary of Defense Robert S. McNamara, "A approach to the Fiscal Year 1969-73" program and fiscal year 1969 budget, in U.S. House of Representatives (90th Cong., 2d sess.), Department of Defense appropriations (1969, hearings before a Subcommittee on Appropriations, pt. I (Feb. 14, 1968), p. 147. Some of the figures are based on a statement by Secretary of Defense Clark M. Clifford, Oct. 25, 1968: (See New York Times, Oct. 26, 1968.)

Mr. YATES. I thank the gentleman from California for his contribution and I was going to address myself to that point.

Mr. BROWN of California. Mr. Speaker, will the gentleman yield?

Mr. YATES. I yield to the gentleman from California.

(Mr. BROWN of California asked and was given permission to revise and extend his remarks.)

Mr. BROWN of California. As long as we are making comparisons in expenditures, the latest study of the U.S. Arms Control Disarmament Agency on world military expenditures is very revealing, because it reveals that the United States continues to outspend Russia by a substantial margin. But, interestingly enough, it also has a column labeled "Special Education Expenditures." In going down that column we find that the Soviets expend twice the amount on education as does the United States. I have never heard a word said that we are losing the special education race with the Soviet Union. Therefore, this may have a very vital bearing upon our defense posture.

As the gentleman has pointed out, the only safety defense against missiles is likely to be in some now unknown field such as the field of education or the application of labor or something of that sort.

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I suspect that the amount of money in scientific education has a great bearing upon how soon you make breakthroughs. Therefore, our security, even in pure power—which is the type of defense generally supported in this body—could be substantially harmed by our concentration upon military weaponry.

Mr. YATES. I thank the gentleman and I think he makes a very positive contribution.

Last week before the Senate Foreign Relations Committee the statement was made that the Soviet Union now has in being and under construction more ICBM's than we do. That should come as no great surprise to anyone who has read the posture statements by Secretary Clifford and Secretary McNamara. But in the context in which Secretary Laird made the statement, one would think that this was somehow evidence that we were falling behind in the missile race and that we had better, therefore, put an automatic stamp of approval on any recommendation by the Defense Department.

The fallacy of all that is that a comparison of raw numbers of ICBM's actually tells almost nothing about our strategic position relative to the Soviet Union. Most of the Soviet ICBM's are so primitive as to be unworthy of comparison with our sophisticated, solid-fueled Minutemen. Moreover, to compare numbers of ICBM's without reference to the overall strategic capabilities of both sides is misleading in the extreme. The fact is that our bomber forces, our IRBM's around the U.S.S.R., and especially our submarine-launched missiles provide us with an overall strategic advantage over the Soviet Union that will endure for the foreseeable future. Our own defense experts have testified to that effect. We must certainly exercise vigilance to assure that we maintain our present position. What is needed for that task is a reasoned, straightforward evaluation of our defense needs.

What is not needed, and cannot be excused, is the quoting of figures out of context in order to exert political leverage for deployment of an ABM system that has so many technical, strategic, and political liabilities that it cannot be promoted on its own merits and which does not contribute significantly to our national security.

The Sentinel system will not add significantly to our national security. It will not protect against a sophisticated Russian nuclear missile threat, or for that matter, a sophisticated Red Chinese missile threat. Our national security still rests upon our offensive power. As Dr. John Foster, Director of the Division of Research and Development of the Department of Defense stated in last year's appropriations hearings:

The cornerstone objective of our strategic forces remains assured destruction, to deter a nuclear attack on the United States we rely upon a conservatively calculated secure ability to retaliate and destroy the society of any attacker under any circumstances.

And he points out in the same testimony that the Soviet ABM deployment does not affect our assured destruction capability of strategic targets in their country, including Moscow.

By the same token, our deployment of the Sentinel ABM system would not deny the Soviet assured capability to destroy the United States as a functioning society. As long as both sides maintain an assured destruction capability, as they are doing, any discussion of damage limitation is quite meaningless. In an over-kill situation such as that which characterizes the strategic confrontation between the United States and the Soviet Union, an ABM system at the present state of the art confers virtually no advantages to either nation. The future may bring an ABM worthy of deployment, but that is for the future. The Sentinel is not that system.

The rationale for the system is supposed to be the protection it would offer from a primitive Red Chinese attack. No one has explained, Mr. Speaker, why the same awesome power to retaliate which is designed to keep all our enemies at bay is not applicable to deter the Red Chinese from attacking us.

Mr. COHELAN. Mr. Speaker, will the gentleman yield?

Mr. YATES. I yield to the gentleman from California.

Mr. COHELAN. I thank the gentleman for yielding.

I wonder if the gentleman would respond to the question: Supposing that the Russians agreed to negotiate, would we continue to have a Chinese thin missile defense system?

Mr. YATES. I would hope that the negotiations would proceed, and I would be afraid that the Sentinel system would be a deterrent to it because under the discussions that I have had with members of the Committee on Armed Services, and with others, they state that the so-called thin system is the underlying layer for a much larger system which is really aimed at the Soviet Union.

Mr. COHELAN. But my point is that even in the negotiation theory this is an expendable system, is it not?

Mr. YATES. I would think so; yes, I would say to the gentleman.

Mr. BROWN of California. Mr. Speaker, will the gentleman yield?

Mr. YATES. I yield to the gentleman from California.

Mr. BROWN of California. Mr. Speaker, I believe the point made by the distinguished gentleman from California is significant as revealing in part the inconsistency with regard to the justification for this system. We cannot simultaneously argue that we need the protection as against the Chinese, and then hope to bargain it away with the Russians.

But, there is an even more serious objection to this Chinese idea, because we are arguing that a thin system will deter the Chinese threat, at least when they have 30 such weapons, but we agree it will not deter such a threat when they get to the point of having 100 or 200—or whatever the magic number is.

So we are caught in the position of denying the effectiveness of the deterrent, as the gentleman in the well has so well stated, or saying that because it is not the deterrent for the end effect, we need this for a period of x years until we get beyond that point and then the deterrent will not be there.

The whole thing is completely ridiculous and is, if course, founded or justified on the theory that the Chinese are irrational and that they would not object to having their country totally destroyed in order to send over two or three missiles to knock out some of our cities.

The Chinese are not quite that irrational. If they were, then they would have attacked Formosa, for example, because I doubt if we would retaliate with a nuclear attack for an attack on Formosa—even though it would be a highly irrational action.

But the point is, the Chinese have not taken any actions that were this irrational, at least in the field of their own defense. It is highly unlikely that they are going to deviate from that practice for a period of 2 or 3 years—in which time we will possibly have a system which might deter that irrational tactic.

Mr. YATES. I agree with the gentleman. I think it is completely naive to suspect that. The Chinese have shown already that they have a great capability because they have already exploded a hydrogen bomb. I think it is completely naive to expect Red China to develop a system so primitive knowing that the United States has this Sentinel ABM system with the capability of thwarting a simple attack. They would know too that in the event they were to launch a missile attack on the United States, the retaliation would be awesome and terrible in its intensity from planes and from submarines ranging near their shores and from missile bases in our country.

I do not understand this irrationality argument at all.

Mr. NEDZI. Mr. Speaker, will the gentleman yield?

Mr. YATES. I yield to the gentleman from Michigan.

Mr. NEDZI. I want to express my appreciation to those Members who organized this debate today on this very important subject.

I think at the present moment in the discussion we are really reaching the crucial assumption upon which the ABM system is based and the rationale for it: namely, the irrationality of the Chinese.

I do not know what makes anybody assume that the Chinese are going to be willing to have their nation obliterated in exchange for dropping a few missiles on the United States.

It is reasonable to assume that their threat is going to continue unsophisticated—and for how long is this lack of sophistication going to continue? I think as soon as we deploy a thin system which has the capability of knocking down unsophisticated Chinese missiles, the Chinese are not going to proceed in constructing and developing an unsophisticated missile system. They are going immediately to devote their resources to have something that is going to be able to meet this thing and they are not going to be building clay pigeons for us to knock down with our ABM and thereby render our ABM system totally obsolete at its inception.

Our President is in Europe at the present time, and talking of a possible discussion with the Soviet Union and looking forward to consulting with our

allies in Europe—as he indicated in his inaugural address—in order to lessen the burden of arms. I am certain it is going to be one of the topics that is going to be discussed at these discussions.

Then, too, I would like to see some effort brought forth, rather than the deployment of the ABM, which may well undermine all these discussions before they begin.

Mr. YATES. I thank the gentleman for his very fine contribution.

Why must we build an admittedly inadequate defensive system to protect us against a prospective primitive missile threat when we are willing to accept our offensive strength as suitable to deter the Soviets who have an enormously powerful missile threat?

The fact is that many of those who favor the Sentinel acknowledge that the anti-Chinese rationale is at best a weak reed, and say, knowingly, that the system is really directed against the Soviets. President Nixon has declared that it would be a part of our overall defense posture which would include the Soviet Union. If this is true, we are talking not about the \$5 billion thin system, but a thick system the cost of which will exceed \$50 billion.

It is not likely that such a vast expenditure would be undertaken for an untested system. A thick system, then, would require in the minds of many that we conduct an extensive testing program to see if the system would work. In turn this might very well bring pressure to suspend the nuclear test ban now in being until the ABM tests were concluded, at least. The international political fallout of such a move would cast serious doubts throughout the world on our good faith in seeking to bring the nuclear arms race under control.

It is also generally accepted that a thick system, with batteries of terminal defense missiles at all of our major cities, would only make sense if it were accompanied by an extensive air raid shelter program. As Secretary McNamara pointed out, an ABM system without a shelter program will lose at least 30 percent of its effectiveness. Without such a shelter program the nuclear detonation of our own defensive missiles would threaten the city below with blast effects and fallout. The costs of a shelter program are astronomical. When such a system was suggested in the early 60s, the American people made it clear they wanted no part of it. The ABM system must inevitably bring with it serious consideration of the need for such shelters.

Moreover, the deployment of a heavy system, or the Sentinel system for that matter, would mean the proliferation of nuclear weapons all across the Nation. While the chances of an accidental disaster are admittedly extremely slim, they will increase with every warhead that is stationed near population centers. Deployment of a thick shield would mean that thousands of nuclear warheads would be installed around the perimeters of our Nation's cities. As it is, the Sentinel system would locate large yield nuclear warheads around 15 to 20 major cities, such as Chicago, New York, and Boston.

What we are faced with, if the decision to go ahead with the Sentinel system is approved, is the possibility that within the next several years the United States will become a nation of cities whose undersides are honeycombed with shelters and whose perimeters are dotted with nuclear installations. The proponents of the ABM have scarcely addressed themselves to this question. We must ask ourselves whether or not we are willing to accept the further pollution of our physical and psychological environment as the price for deploying a system as faulty as the ABM. It seems to me that our money could be better spent rebuilding the slums, rather than building shelters underneath them and surrounding them with nuclear hardware. I am not saying that if we go ahead with the Sentinel system, the thick shield and the shelter program are inevitable, but they would certainly be much more likely. The first step will have been taken—the major step. We ought not to make a judgment on one without understanding the implications of the other.

Last, but certainly not least, we must examine the implications of the Sentinel system on the strategic arms race. The dynamics of the arms race are very complicated, and it is difficult to predict with much accuracy what would happen if we went ahead with the ABM. But if history is any guide at all, it seems likely that our construction of the Sentinel system would signal the beginning of a new round in the arms race and have a destabilizing effect on the existing nuclear balance.

Mr. Speaker, it is true that our national security requires a posture of military strength, but we must realize that sophisticated scientific technology and unbridled weapons exploitation has made war a threat to the very existence of man on this earth. This is a time for restraint and for concern for future generations, for deescalation rather than destructive buildups. The Sentinel ABM deployment will not contribute to greater understanding and peace. It should be discontinued.

Mr. MIKVA. Mr. Speaker, will the gentleman yield?

Mr. YATES. I yield to the gentleman from Illinois.

Mr. MIKVA. I thank the gentleman. I want to call his attention to something that he knows well. I asked a speaker who was representing the Army the meaning of the term "essentially nil." The closest I came to an answer was that it is some new mathematical term more than a zero but less than infinity and cannot be defined any closer. It strikes me that when the assurance that the military have about the term "essentially nil" is transposed into the effectiveness of the Sentinel system, according to Mr. Acheson and some of the other experts, in effect, I worry that "essentially nil" may mean a lot more than zero even though, in fact, it may be less than infinity.

I am struck, when I read some of the figures and when they talk about the effectiveness of the system and the assurance that they have about it being safe, that they are sort of like the

prognosticator who said he was 95 percent right 12 percent of the time.

I am glad the gentleman from Illinois has brought forth this concern about the safety of the system.

Mr. YATES. I thank the gentleman. Mr. BROWN of California. Mr. Speaker, will the gentleman yield?

Mr. YATES. I yield to the gentleman from California.

Mr. BROWN of California. I wish to compliment the gentleman on his excellent statement. I think it is a great contribution to this debate. I remember particularly the previous work he has done in connection with the hearings concerning the Chicago site. I recall the discussion in those hearings with regard to the safety factor.

I would like to say further, on the safety factor, I know of no way of contradicting the fact that the safety of a deployed nuclear system is going to depend directly or even arithmetically or geometrically on the number of nuclear warheads that are deployed. What we are talking about with this defense system is deployment of at least another 1,000 nuclear warheads and probably the deployment of equal numbers by our opponents to counteract the ones we deploy, so the total population of nuclear warheads in the world is going up by a factor of 3 or 4, and the danger of nuclear action is probably going to increase by the square of that, so even if this danger of accident is "essentially nil," when we are finished with this deployment it is going to be probably 10 times essentially nil and maybe more than that.

(Mr. YATES asked and was given permission to revise and extend his remarks and include extraneous matter.)

Mr. YATES. Mr. Speaker, I also include the following material in connection with the subject of my special order:

STATEMENT BY REPRESENTATIVE SIDNEY R. YATES, DEMOCRAT OF ILLINOIS, AT A PUBLIC HEARING ON THE SENTINEL ANTI-BALLISTIC-MISSILE SYSTEM, THE FEDERAL BUILDING, CHICAGO, JANUARY 13, 1969

I am grateful to Secretary of Defense Clark Clifford for his cooperation in making possible this public hearing today, and to Colonel Robert C. Marshall and his associates for coming here to answer questions about the proposed Sentinel ABM site near Libertyville. The matter under consideration is a most important one. Public officials in this area and a great many people are concerned with the prospects and the risks of having to live and raise their families close to high-yield nuclear weapons.

I want to make it clear from the outset that I have opposed the Sentinel antiballistic missile system for some time now and I shall continue to oppose it. In my judgment the proposed system is of such questionable usefulness that its deployment at this time would constitute an unfortunate waste of vitally needed resources. Moreover, this initial step could signal the beginning of a new round in the arms race that would have serious consequences for our economy, the domestic climate of our country, and our national security. The missile site question I raise here today is only one of several objections I have to the deployment of the system at this time, but it is the question under immediate consideration.

While only a corollary to the larger questions involved in missile defense, it is an important corollary. The possibility of an

accidental nuclear disaster though quite remote is nevertheless real and must be taken into account before these sites are installed around the perimeters of the nation's cities, raising the possibility that the cure is worse than the disease. There are many questions which should be answered in order that the public may know what is involved in the deployment of the Sentinel system.

I have been urging the Department of Defense to agree to this public meeting since last November when I learned to my great surprise that the Army was going to select a suburb near Chicago to build a Sentinel ABM site. This was contrary to what the Congress had been told. In the words of Congressman Sikes of Florida, who was in charge of the ABM appropriations bill, "Such installations would be away from centers of population."

The Army contends that it had announced in November, 1967, that Chicago would be selected. Nothing could be more indefinite than the Army's announcement. Let me read it. It says:

"The Department of Defense today identified the first ten geographical areas to be surveyed as possible site locations for the Sentinel system, the Communist-Chinese oriented anti-ballistic missile system recently approved for deployment. . . ."

"The potential areas which will be studied now are among those which will probably provide optimum locations for the area-defense weapons and their radars. It should be emphasized that those areas are not final choices and that this list is not complete. In some cases, even the preliminary potential areas have not yet been determined."

However, I think the point is unimportant, for even had the announcement been specific and precise, it was superseded by what happened in the Congress subsequently. Congressman Sikes' statement and the Department of Defense Appropriations Subcommittee's hearings both clearly indicate Spartan missile sites need not be constructed near our great cities.

My view was reinforced a week ago Friday when I spoke to Congressman Sikes in the House. He said again there was no need to place a Spartan site near centers of population, and that he intended to look into the matter. This he has done. Last Friday I was called and asked to testify on this matter before his Subcommittee on Military Construction of the House Committee on Appropriations next Wednesday morning in Washington, which I will do.

The House Committee on Armed Services will look into this question, too, later this month or in February.

I think that many members of Congress might well have come to another conclusion had they been told the Sentinel missile sites were to be placed at the threshold of the most populated areas in this country. That is why I have invited all members of Congress and elected local officials from this area to this meeting, for this is not a question only for the congressman in whose district the installation is to be made. The possibility of an inadvertent explosion of the nuclear warhead of the Spartan missile either in or above its silo affects all our districts.

The Army argues there is no danger of an explosion at the site. Lieutenant General Alfred Starbird, who is the head of Sentinel Systems Command, stated categorically at a meeting in Waukegan a few weeks ago, "There cannot be an accidental nuclear explosion." In this, General Starbird departed from the position previously taken by the Army, for in the non-classified materials being distributed for public consumption by the Department of Defense the question is asked, "What are the safety implications of living in an area where nuclear weapons are stored?"

The response given is: "U.S. nuclear weapons are designed with a series of safety devices so that the likelihood of any nuclear

yield in case of an accident is essentially nil." I repeat, "essentially nil." General Starbird's statement is absolute. The D.O.D. is not willing to go that far. The chance of accident, it says, is most remote, but it is not impossible.

In order to substantiate its claim that an accidental nuclear detonation could not occur at one of the Sentinel sites, the Department of Defense cites 20 years of accident-free handling of nuclear weapons. I agree that so far the Department of Defense has built a record in handling nuclear weapons that we can all admire. But I do not think it makes sense to suggest, as they do, that since there has never been an accidental detonation there can never be one.

General Starbird's statement is also at odds with the handbook prepared by the Department of Defense and published by the Atomic Energy Commission in 1962. In Appendix A, it states:

"Nuclear weapons are designed with great care to explode only when deliberately armed and fired. Nevertheless, there is always a possibility that, as a result of accidental circumstances, an explosion will take place inadvertently. Although all conceivable precautions are taken to prevent them, such accidents might occur in areas where the weapons are assembled and stored, during the course of loading and transportation on the ground, or when actually in the delivery vehicle, e.g., an airplane or a missile."

There have already been a considerable number of accidents involving nuclear weapons. The crashes at Palomares, Spain, and Goldsboro, North Carolina, come readily to mind. Of the Goldsboro incident Ralph Lapp, a nuclear scientist, says in his book, *Kill and Overkill*, that at the scene of the accident Air Force experts found that five of the six safety interlocks had been triggered by the fall.

When he was asked at the Waukegan meeting about Lapp's statement that all but one of the safety devices on the bomb which fell at Goldsboro had been triggered, General Starbird took issue with the statement. I thought, therefore, it would be well to check the matter further, so I asked the staff of the Appropriations Committee to obtain an authoritative answer. The Air Force gave me this answer: that instead of only one safety device remaining intact, two remained untriggered.

The deployment of the Sentinel ABM system is justified in part on the ground that it will catch accidentally launched ICBM missiles from other countries. If an ICBM can be accidentally launched, why cannot a Spartan be accidentally launched?

If a Spartan missile can be launched accidentally, what happens to its megaton range nuclear warhead? Is there any possibility that it will be exploded in the atmosphere rather than in the target area above the atmosphere? Is it possible for a Spartan missile located at a site in a southern state to re-enter the atmosphere and threaten northern populations?

I realize that a mechanically perfect Spartan will not explode until it is above the atmosphere where its nuclear yield will do no damage to this earth or its people. But we are talking about a less than perfect Spartan missile which through mechanical or human failure has been launched. Can its nuclear mechanism arm itself prematurely and explode its nuclear charge before it leaves the atmosphere?

The point is that the safety devices are not infallible—the fact that weapons are designed not to malfunction does not mean that they cannot. Nuclear accidents have been occurring at the rate of approximately one per year since the advent of the atomic age more than 20 years ago. As weapons proliferate throughout our states, we can expect the incidence of accidents to increase.

The possibility of an accident at the missile site cannot be discounted. Let me read

to you from a Washington Post story of May 23, 1958, describing an accidental missile launch that occurred in Middletown, N.J.:

"Eight powerful Ajax missiles" reports the Post "exploded at a New Jersey Nike launching base today, killing nine men, injuring three and showering 24 live but non-atomic warheads over a wide area."

"A tenth man was missing and presumed dead."

"The Army said one of the missiles went off at about 1:20 p.m. while a crew of five civilian technicians and six army personnel was installing a new type of arming mechanism to insure greater accuracy. Four minutes later, seven other missiles on the launching pad blew up at once with an earthshaking roar that could be heard ten miles away. Windows were shattered within a one-mile radius."

"Army demolition crews scoured the countryside for the 24 warheads that were sent hurtling over the area."

Fortunately the accident was non-nuclear, but I think the remarks of the Mayor of Middletown is relevant. He said, "The Army assured me nothing like this would ever happen. Now we have missiles flying all over the place, landing on schools, in the streets and on our houses. The Army assured me that their things were not armed and never would be fired unless there was an enemy attack."

I have great respect for General Starbird as a distinguished and able officer. But despite the best intentions and assurances of able generals and despite their extensive and intensive precautionary measures with men and materials, accidents have occurred—and they will continue to happen. Mechanical equipment breaks down and men are not infallible. One has only to read the article by Dr. Paul Eggertsen in the August issue of *Psychiatry Magazine* entitled "The Dilemma of Human Reliability" to appreciate the incredible difficulties facing the leaders of our military forces in seeking to eradicate human failure in dealing with the complicated weapons used in today's armed forces.

Dr. Eggertsen tells of the work of the human resources committee of which he was a member and of the task given it by the U.S. high command, "Our bombs," read his assignment, "are increasingly numerous, they are deployed widely because of the cold war, and they have quick reaction times because of the short warning times that obtain in the cold war. We begin to perceive they may not always be in safe hands. You know about people. How can we make sure that only 'safe' people get control of weapons?"

The discussion ended, says Dr. Eggertsen, in the committee's answer that neither this nor any other group could insure that only 'safe' people could deal with nuclear weapons.

From all this the conclusion seems obvious that if it is possible to place nuclear missile sites away from centers of population without unduly diminishing whatever effectiveness the Spartan missile may have, in the interest of public safety that ought to be done. In this instance, distance from the city is important.

Particularly is this true when the public is required to live with a defense of such limited capability as the Sentinel. It is one thing for our people to have to live with nuclear weapons that are part of a defense system that provides maximum protection. It is quite another thing to ask them to assume such risks for a system which will not protect against the Soviet missile threat, which will not protect against nuclear warheads fired from enemy planes or submarines, which will not protect against a Red Chinese threat if it carries a missile which is not quite primitive in effectiveness.

Does it not seem naive to expect the Communist Chinese to develop and attack the

United States with a missile system so unsophisticated that it could be thwarted by the Sentinel system, especially when the Chinese would know that our retaliation would be swift, certain and utterly devastating from nuclear warheads fired from bombers and submarines ranging near China's shores and from missile bases in this country?

I have voted for ABM research and development funds over the years because I believe that as long as nuclear weapons exist in other countries, we have no choice except to develop the best antimissile defense we can. But as yet, the Sentinel system should not be leaving the drawing board and the laboratory. As former Secretary of Defense McNamara said to Congress: "None of the ABM systems at the present or foreseeable state of the art would provide an impenetrable shield over the United States. . . . Let me make it clear that the cost in itself is not the problem; the penetrability of the shield is the problem."

There is a time for research and there is a time for deployment. The first stage must be completed before the second is undertaken. As Dr. Hans Bethe states it so well in his article in the March issue of the Scientific American:

" . . . One must distinguish clearly between the possibility of development and the development itself, and similarly between development and actual operation. One must refrain from attributing to a specific defense system, such as Sentinel, those capabilities that might be obtained by further development of a different system."

It follows that the Sentinel light ABM system, to be built now and to be operational in the early 1970's against a possible Chinese intercontinental ballistic missile threat, will have to reckon with a missile force unlike either the Russian or the American force, both of which were, after all, built when there was no ballistic-missile defense. The Chinese will probably build even their first operational intercontinental ballistic missiles so that they will have a chance to penetrate. Moreover, we believe it is well within China's capabilities to do a good job at this without intensive testing or tremendous sacrifice in payload.

One remembers the recommendation of the Army in 1959 to deploy the Nike-Zeus ABM system, which was a predecessor to the Sentinel. President Eisenhower turned down the Army's request. Had he complied with the Army's recommendation and Nike-Zeus deployed at an estimated cost of \$14 billion, in the words of former Undersecretary of Defense Cyrus Vance: "It would have had to be torn out and replaced almost before it had become operational."

Yet, "the illusion is being nourished," says Dr. Bethe, "that an effective system against ballistic missiles is possible." And the Army is contributing to that illusion. Many people—I should say most people—believe the Sentinel system is a sure defense against all incoming enemy missiles. They do not receive full information about it. For this hearing the propaganda machine of the Department of Defense was busy. Friday's Chicago *Daily News* showed drawings obviously obtained from the Department of Defense. The descriptive material says: "These drawings based on a conference with Army officials, show how Sentinel missiles would be launched and guided and how they would stop enemy missiles."

To the average reader, this is a picture of a fool-proof defense. How could anyone, it suggests, be opposed to this scientific marvel which renders us impervious to enemy missile attack? The average reader would not know that enemy missile attacks do not come from individually lobbed firings, but in a salvo. The Sentinel would be inundated in a true attack. Should not the public know this?

From the Army's standard presentation we learn that in 1962 in a test at Kwajalein atoll a Nike-X missile intercepted one of our ICBM's launched from our west coast. Thereafter, it continues, various major improvements were made in the radar and interceptors available so that those components when fitted together into a system could meet a sizable number of attackers.

How many attackers can it meet? I realize I am nearing the realm of classified material and I would not want such data made public. But the department's own experts concede that it could not withstand a Soviet attack. What is its capability? How much can the public be told?

Will the Spartan installation proposed for Libertyville protect Chicago from a missile attack if the attacker uses decoys?

Will that Spartan installation protect Chicago if the attacker creates a Beta-patch blackout?

The specter of nuclear accidents remains. Each new ABM site will increase the chances for a nuclear accident. Those of us who represent constituencies close to missile emplacements have a responsibility to make a judgment as to whether or not we are willing to vote to take the risks implicit in this deployment. I, for one, am not willing to jeopardize the well-being of millions of citizens in the Chicago area for the sake of a system so questionable as the Sentinel ABM.

The citizens of the Chicago area are concerned, especially those who live near the Libertyville site. I receive mail and phone calls in my office daily from concerned citizens who want no part of the Sentinel system. Numbers of people and groups wanted to give statements at this hearing today. I told them time did not permit it because of the great number of requests.

I have tried to cover some of the questions that have troubled me and the many people who have written to me. I don't envy the Army its task. The threat of enemy weaponry is serious enough without introducing into the picture new anxieties concerning our own weapons. I do it reluctantly and only because I consider the decision we face with the Sentinel system and the location of its sites so serious. I hope and pray the decision we reach may be the right one.

(Mr. KASTENMEIER asked and was given permission to extend his remarks at this point in the Record.)

Mr. KASTENMEIER. Mr. Speaker, I would like to add my voice to those of my colleagues in opposing the deployment of the antiballistic-missile system. While the question has been dramatically debated by both the proponents and the opponents of the ABM, I think we would do well to consider not only the technical arguments that can be made against the system, but also the arguments which focus on that subtle and neglected position that deployment of an ABM system would tend not to stabilize the situation vis-a-vis the Soviet Union, but rather to heighten the instability of an already dangerous situation.

It is often said that an ABM would not upset the balance of terror because it would simply strengthen our ability to absorb a first strike and still be able to inflict unacceptable losses upon the Soviet Union. However, this argument is generally based on the supposition that the Soviets will not build up their offensive might in response to the deployment of the ABM. I believe this supposition to be wholly unrealistic and dangerous. The Soviets are as interested in main-

taining an assured destruction capability as we are. If we deploy our ABM, the Soviet Union can be expected to upgrade their offensive forces to the point that they can cope with a highly sophisticated and accurate ABM system. In short, the Soviets must plan their offensive forces in such a way that they will be able to overcome a 95-percent effective ABM system if they want to maintain their end of the balance of terror. This mad rush for more and better weapons on their part would certainly force us to move in a similar direction. Can we honestly call this a stable situation, a situation conducive to frank discussions with the Soviets, conducive to a secure world in which we can live out decent lives.

Furthermore, I would like to add a note of warning to all those persons, ordinary citizens and leaders alike, who might believe that because we have an ABM there is some guarantee against destruction. Even if we should have an ABM which is 90-percent effective, there is no protection against annihilation in the event of a heavy attack. If 10 percent of the warheads in a large-scale attack get through, this is enough to crush our society and spell the doom of millions of our people. The grave danger is that someone might allow himself to be led into the fantasy that there is some protection after all. I shudder to think what would happen if we deploy this system and someone then thinks that it is effective enough to allow us to take a few more risks in pursuing our national goals.

Is it not true that in this case it is better to be truly afraid of the real danger of annihilation than to be lulled into a false security by unfounded promises about the effectiveness of an untested ABM system. Let us admit the fact that it is impossible to defend ourselves against destruction once the war begins and abandon now the ABM system. Perhaps then our realistic fear will drive us to seek more creative and productive means of building a secure and peaceful world in which we can live in safety with the Russians as well as the Chinese.

The SPEAKER pro tempore. Under a previous order of the House, the gentleman from Ohio (Mr. MINSHALL) is recognized for 45 minutes.

[Mr. MINSHALL'S remarks will appear hereafter in the Extensions of Remarks.]

LONG BEACH, CALIF.: PROGRESSIVE RECREATION

The SPEAKER pro tempore. Under a previous order of the House, the gentleman from California (Mr. HOSMER) is recognized for 5 minutes.

Mr. HOSMER. Mr. Speaker, the city of Long Beach deservedly enjoys a nationwide reputation for imagination and leadership in education and municipal services. Part of this reputation stems from a very wise decision on the part of the citizens of Long Beach 40 years ago when they voted to establish a recreation commission.

That vote was 40 years ago today, and it resulted in a coordination between

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the municipal recreation department and the school recreation program. It has long since become one of the outstanding such plans in the Nation.

This coordination under the recreation council has enabled Long Beach to get maximum benefit from its recreation dollars, which now have numbered more than 66 million since 1945. The benefits of this plan are many and varied. The city and the school system do not duplicate each other's facilities. Schools may use city parks, baseball diamonds, and camping facilities, while the city recreation program has full access to school gymnasiums, swimming pools, and athletic fields. All this has been a major benefit to the city's taxpayers.

I would like to take this opportunity to commend the Long Beach Recreation Council for its progressive leadership and dedicated service to the needs of the people of Long Beach. The council is headed by Mr. Milton B. Arthur, president, and Mrs. Charles F. Reed, vice president. Members are Mrs. Maurice W. Johnson, Mr. John Mansell, Dr. Dwight C. Sigworth, Mr. Charles A. Stevens, Councilman Emmet M. Sullivan, Mrs. Gus A. Walker, and Mr. W. Odie Wright.

The director of physical education and municipal and school recreation. Mr. Alvin D. Hoskin, recently addressed a civic group and highlighted the significance and accomplishments of Long Beach's outstanding recreational plan. Mr. Hoskin's remarks follow:

COORDINATION UNEXCELLED

Sound in its concept, effective in its service to the children, youth and adults of the community, and diversified in its scope, the Long Beach Coordinated Municipal and School Recreation program has become nationally and internationally acclaimed. The development of this corporate image did not just happen; it became a reality because of the dedication and sincere desire of leading citizens of this community, Recreation Commission members and recreation employees striving to provide for the needs of the community and diligently working for a quality type recreation service for its citizens. Most of us today accept the concept of coordination between the school district and the City of Long Beach, but few of us are aware of the basis for the present inter-agency coordination.

Let us go back a half century to the year 1917 when Eugene Tincher, now a prominent local attorney, was elected Commissioner of Public Affairs. Among his responsibilities was the administration of the parks and playground. It was during a four-year term that Mr. Tincher developed cooperative relationships between the municipality and the school district in the operation of the playgrounds and recreation programs. With the help of the school authorities in providing and lighting two schools, the PTA and the Public Affairs Department provided the personnel and the municipality provided the facilities necessary. During the latter part of this period \$1,000 was appropriated for the operation of the summer playground project. Leaders were paid from these funds and the program was operated at five school playgrounds. Supplies were furnished by the PTA of each school. In 1920 a Community Service Committee headed by Josephine Randall, National Recreation Association recreation specialist, made a study of recreation in Long Beach.

In 1923 another survey of recreation in Long Beach was made by Mildred Wiley. Following this a meeting of the College Women's Club, now University Women's

Club, was held, at which time a report was given which included the following statement:

"The visitor in Long Beach during the summer finds these eight supervised and equipped playgrounds in full swing. He returns in September and looks again. No playgrounds. No leaders. A few children about after school for an hour or two. Are not the play needs of the summer still existent, or is play a bad thing for children in the fall, winter, and spring?"

The survey report also stated:

"No good reason can be seen for the existence of two separate administrations for the playgrounds of the City of Long Beach. On the other hand, there is reason for unifying the command. The purpose of all the public playgrounds is identical, namely to furnish play for the children in the daytime and the adults in the evening. Because certain sites happen to come under the jurisdiction of the Department of Recreation, and others happen to be school grounds under the authority of the Board of Education, is no reason why one central head should not be responsible for the administration of all."

Additional efforts were made to establish cooperation and coordination between the City and the School District in providing recreational opportunities. In 1928, Charles H. Hunt, high school supervisor of physical education, was convinced that a greater use of the school facilities could be made for recreation. He suggested a plan to Superintendent of Schools W. L. Stephens, to open all playgrounds, gymnasiums and swimming pools for after school, Saturday, and vacation use. The Board of Education supported the plan by appropriating necessary funds.

Later, Mrs. W. J. Kimball, President of Washington Gladden Club of the Congregational Church, came to Mr. Hunt and urged that some plan be developed that would incorporate the parks, beaches and other city areas with the schools. Subsequently, this Club invited several hundred community leaders to the Church for a meeting and Mr. Hunt addressed the group, outlining a possible plan of coordination and suggesting that a survey committee composed of school and community leaders be formed to study the situation and make recommendations. The Press-Telegram published and supported the idea. The PTA under Mrs. Stephen G. Skinner, President, called a meeting at which time a Public Recreation Survey Committee was formed with Clyde Doyle, attorney and later Congressman, as chairman.

The survey Committee met regularly for nearly a year and involved many prominent local citizens and organizations as well as State and national consultants. It is interesting to read a portion of one of Mr. Doyle's reports:

"By mail and personal interviews with representatives of other cities, documentary material, visitations, and all other available methods and means, this group sought out the experiences of dozens of other American cities in this matter, both municipal and school, relating to parks, playgrounds, school gymnasiums, athletic field, physical education programs, use of public buildings, grounds and facilities under the Civic Center Act of the State of California and otherwise, having in mind at all times the desirability of Long Beach profiting by the experiences and mistakes of other cities. At the time the study commenced, the municipality of Long Beach was conducting virtually no recreation or playground program, but the Board of Education was financing and conducting one which appeared highly efficient and desirable."

Following the completion of the study, City officials requested that legal provisions to coordinate municipal and school recreation be prepared for submission to the electorate. Mr. Hunt prepared the original documents which were refined into legal

terminology by Mr. Doyle. The PTA was the major community organization supporting the concept and encouraging voters to approve the Charter Amendments which they did in 1929.

The City Charter amendments of 1929 provided for the establishment of a Recreation Commission consisting of nine members. Four of the nine members serve because of their positions within the governmental structure of the community. The additional five members are lay citizens who serve terms of five years with one term expiring each year.

The Superintendent of Schools and the City Manager by Charter provision are members of the Recreation Commission. The Board of Education selects one of its members to represent it on the Recreation Commission and the City Council selects one of its members to represent the City Council on the Commission. The Charter provides that no more than six of the nine members may be of the same sex, thereby assuring that at least three women are represented on the Commission.

The Recreation Commission is charged with the responsibility of establishing policies governing the joint operation of school and municipal recreation.

Close working relationships with the other city commissions and departments are essential for the coordination of recreation. A Coordinating Committee consisting of the president of the Park, Planning and Recreation commissions, the director of each of the three departments, and representatives from the City Engineer's Office, City Manager's Office, and Marina Advisory Committee, meet regularly to consider plans for major facilities or developments relating to recreation. Recommendations of the Coordinating Committee are referred to the respective commissions. After approval of the Coordinating Committee's recommendations by the commissions, the City Manager's Office is informed and the recommendation to the City Council is forthcoming. Upon approval by the City Council, the implementation of the recommendations occurs.

The City Charter further provides that the Director of Health and Physical Education of the School District shall be the Director of Recreation for the City and that he shall manage and supervise the public recreation program. The Director is also the secretary of the Recreation Commission and has the responsibility of coordinating the recreation program of the schools and of the city.

It has been the concept under the coordinated plan from the beginning that both school and municipal facilities may be used for the recreation of the citizens. The City may use the gymnasiums, swimming pools, athletic fields, etc. when these are not needed for the educational program. The schools in turn may use the recreation facilities, parks, baseball diamonds and have use of camping facilities provided by the City. These reciprocal uses of facilities are coordinated through the office of the Director of Municipal and School Recreation.

One of the major advantages of the Coordinated Program of School and Municipal Recreation is the economy of the joint use of facilities. The City does not duplicate the construction of gymnasiums, pools, athletic fields of the schools but builds structures such as social hall clubhouses and youth club facilities that are used for the activities not normally conducted in the school plant. Such coordinated use enables the tax payers of the community to save a great deal on the construction of facilities as well as provide a much greater utilization of both school and city recreation facilities.

Recreational services are coordinated at the Commission level, administration level, supervision level, and the recreation leadership level. The fact that both agencies of the coordinated program are represented at the

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4. 20 Private Colleges (Most Baccalaureate Only)

(In thousands of dollars)

	Pt. 1	Pt. 2	Pt. 3	Total IG		Pt. 1	Pt. 2	Pt. 3	Total IG
Tuskegee Institute (Alabama) (1,098).....	130	61	43	234	Carleton College (Minnesota) (159).....	66	27	0	93
Reed College (Oregon) (450).....	95	23	17	135	Washington & Lee University (Virginia) (142).....	64	29	0	93
Pomona College (California) (543).....	102	26	0	129	Kalamazoo College (Michigan) (443).....	94	25	0	119
Franklin & Marshall College (Pennsylvania) (478).....	98	47	11	156	Morehouse College (Georgia) (171).....	67	21	0	88
Fisk University (Tennessee) (291).....	79	24	12	115	Grinnell College (Iowa) (443).....	94	24	0	118
Vassar College (New York) (115).....	62	33	6	101	Centre College (Kentucky) (41).....	41	15	0	56
Knox College (Illinois) (587).....	104	27	0	132	College of Wooster (Ohio) (54).....	51	33	0	84
Earlham College (Indiana) (92).....	58	23	1	82	Spring Hill College (Alabama) (72).....	54	25	0	79
University of the South (Tennessee) (102).....	60	18	6	85	Birmingham-Southern College (Alabama) (125).....	63	21	0	84
Millsaps College (Mississippi) (300).....	80	19	0	99	Davidson College (North Carolina) (14).....	14	20	0	34

FOOTNOTES

Pt. 2, sec. 2(b)(2)—Formula used: Number of resident students (full and part time) enrolled in fall 1967 multiplied by \$20.

Pt. 3, sec. 2(b)(3)—Formula used: Number of master's degrees in science and engineering (for 3-year period)×1, plus number of doctor's degrees in science and engineering×3. Total number of advanced degree units then multiplied by \$700.

Note: The numbers of advanced degrees in science and engineering for a 3-year period (1963-64 1964-65, 1965-66) were:

M.S.----- 100,390×1=100,390

Ph. D.----- 30,293×3= 90,879

Total degree units----- 191,269

\$133.3M divided by 191,269 degree units=\$700 (approximately).

Totals under pts. 1-3 (in thousands):

Pt. 1----- \$132,308

Pt. 2----- 133,408

Pt. 3----- 133,888

Total----- 399,604

The PRESIDING OFFICER. The bill will be received and appropriately referred.

The bill (S. 1563) to promote the advancement of science and the education of scientists through a national program of institutional grants to the colleges and universities of the United States, introduced by Mr. HARRIS (for himself and other Senators), was received, read twice by its title, and referred to the Committee on Labor and Public Welfare.

THE ANTI-BALLISTIC-MISSILE SYSTEM

Mr. GORE. Mr. President, three eminent scholars, Dr. Allen S. Whiting, Dr. Marshall D. Shulman, and Dr. Carl Kay-sen, appeared before the Subcommittee on Disarmament of the Committee on Foreign Relations this morning.

I have also received a telegram from the presidential adviser to President Johnson, Dr. Donald F. Hornig.

I ask unanimous consent that these statements and the telegram may be printed in the RECORD.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

STATEMENT OF DR. ALLEN S. WHITING, PROFESSOR OF POLITICAL SCIENCE AND ASSOCIATE, CENTER FOR CHINESE STUDIES, THE UNIVERSITY OF MICHIGAN, MARCH 13, 1969

Mr. Chairman, distinguished members of this committee. I would like to express my appreciation for the privilege accorded by your invitation to appear here today. Unlike Professor Schulman, I can lay no claim to first-hand contact with the Chinese Communist leadership and people. But twenty years of analyzing the People's Republic of China in action does give a basis for evaluating the claim that an anti-ballistic missile system is necessary to cope with the alleged "Chinese threat." In addition to past Chinese behavior, we can develop a logical framework of likely future contingencies within which we can estimate the range of probable Chinese actions. And finally, I would like to offer some thoughts on how our construction of an ABM, officially justified in terms of a "Chinese threat," might affect our future relations with China.

There appear to be two alternative premises underlying the rationale, which links an ABM with China's anticipated ICBM capability, estimated to be available to Peking in the next four or five years. One premise holds that the Chinese leadership at that time—quite likely after the death of

Mao Tse-tung—may be sufficiently irrational as to launch a thermonuclear attack against American cities despite the absolute certainty of retaliatory nuclear devastation in China. An alternative premise holds that our confrontation with China in situations of mutual but conflicting interests will be sufficiently serious as to require an ABM to safeguard against the possibility of miscalculation, escalation, and a sudden—if suicidal—Chinese ICBM attack.

Both premises share an assumption that the Chinese will be fundamentally different from the Russians in their handling of nuclear weapons and their response to the threat of nuclear devastation. We have lived for many years with several generations of Soviet weapons systems capable of striking American cities. We have actually faced down the Russians in Berlin and Cuba. We have found that Soviet doctrine and American deterrence worked. No Russian attack occurred. In the Western Pacific theater we have deployed and can deploy so vast an arsenal of nuclear weapons in land, sea, and airborne systems, as to literally destroy much of China's population and virtually all of its agricultural as well as its industrial economy. And yet we are asked to believe that unless we have an anti-ballistic missile system, we are in serious jeopardy should China acquire an intercontinental ballistic missile system.

I see no basis in fact or theory for attributing a significantly higher likelihood of irrationality to Chinese as compared with Russian decision-makers. To be sure, the Chinese are far more strident than the Russians in verbal support of so-called "people's wars" and "national liberation struggles." But Peking has done no more than Moscow in rendering open aggressive support for foreign insurgencies, much less is risking nuclear retaliation on behalf of such insurrections. Despite our continued intervention in the Chinese civil war, protecting Chinese Nationalist forces on Quemoy within gun-range of Chinese Communist batteries on the mainland, there has been no compulsive or reckless risk-taking on the part of Peking. True, Chinese Communist forces engaged us massively in the Korean War while Russia stood aside. However an American military move in Hungary in 1956 or Czechoslovakia in 1968 would almost certainly have found Moscow taking risks similar to, if not greater than, Peking took in Korea. The Chinese gave no help to the North Korean invasion in 1950 but did intervene when that regime was about to be driven off its own territory. Any similar effort to roll back communist rule in East Europe would have run an equally grave risk of provoking an identical—or worse—Russian reaction.

Since the Korean War, the only major action involving Chinese troops has been the several weeks of limited war with India in

the disputed Himalayan border area. Indeed, the preponderant weight of evidence shows that the Chinese leadership to date has used force beyond its borders with a consistently deliberate control so as to minimize the risks consonant with the perceived interests involved. This rational behavior seems to be at least as equally, if not more, likely in the post-Mao regime of the mid-nineteen seventies.

The alternative premise postulates a situation wherein the Chinese leadership acts rationally but miscalculates, and suddenly finds itself compelled to launch an ICBM attack against American cities regardless of the consequences. This could arise from one or two situations. Peking attempts nuclear blackmail, its bluff is called, and it is "locked in" to a situation from which it sees no alternative but to proceed. Alternatively Chinese interaction, political or military, with the United States or its allies, reaches a point which threatens a nuclear attack on China and Peking feels it must pre-empt or lose its small, highly vulnerable ICBM force to enemy attack.

These hypothetical projections cannot be assessed in vacuo, however. They must be applied to specific situations, past, present, or future, so as to assess their likelihood. Blackmail must have a purpose; confrontations must offer credible gains as well as credible risks. For instance, the most familiar aspect of Chinese Communist propaganda is Peking's avowed support for "people's wars." However, to make this a plausible basis for projecting a Chinese nuclear attack against the United States, we must go well beyond simple patronage, whether public or private, for insurgency. We must hypothesize serious, direct, and overt material Chinese support sufficient to identify an insurgency as of vital interest to Peking—so vital as to risk the entire Chinese mainland suffering nuclear devastation.

Between 1949 and 1969 not one such insurgency has arisen, either on China's borders or at more distant points overseas. Despite a serious border dispute with New Delhi, one which eventually triggered actual war in 1962, Peking has not given massive support nor taken significant risks on behalf of Indian communist insurrectionary movements or anti-Indian minority uprisings. The Telangana uprising in 1949 failed as did the Naxalbari revolt in 1968. Both applied Mao's maxims of armed struggle in the countryside. Both times Peking anathematized New Delhi as a fascist regime, acting as an anti-Chinese tool for foreign governments. Yet China never took any serious steps to keep these insurgencies alive, much less see them through to victory.

Similarly anti-Indian movements or actual uprisings, in the sub-Himalayan states and principalities of Nepal, Bhutan, and Sikkim, or amongst the Nagas of Assam, have failed

APPENDIX TABLE II.—ESTIMATED INSTITUTIONAL GRANTS UNDER H.R. 35

A. COMPUTATION OF GRANTS AND OVERALL DISTRIBUTION

1. Funds Required for Part 1 by Formula Interval

(Dollar amounts in thousands)

Percent	Formula interval	Maximum increment	Number of institutions	Cost per formula interval	Percent	Formula interval	Maximum increment	Number of institutions	Cost per formula interval
100	\$1 to \$50	\$50	1,903	\$60,500	1.5	\$10,001 to \$20,000	\$150	67	\$6,903
20	\$51 to \$100	10	926	7,992	1	\$20,001 to \$35,000	150	29	2,919
10	\$101 to \$500	40	698	16,530	0.5	\$35,001 to \$95,487	302	14	1,006
5	\$501 to \$2,000	75	278	14,706					
4	\$2,001 to \$4,000	80	161	11,079	Total				132,308
2	\$4,001 to \$10,000	120	123	10,673					

2. Distribution of Funds in Part 1 by Institution Group

(Dollar amounts in thousands)

Formula interval	Maximum increment	Maximum IG	Number of institutions	Base dollars	Institutional grants	Formula interval	Maximum increment	Maximum IG	Number of institutions	Base dollars	Institutional grants
\$1 to \$50	\$50	\$50	977	\$14,200	\$14,200	\$10,001 to \$20,000	\$150	\$525	38	\$550,173	\$16,803
\$51 to \$100	10	60	230	16,662	12,432	\$20,001 to \$35,000	150	675	15	381,895	8,694
\$101 to \$500	40	100	418	95,905	30,440	\$35,001 to \$95,487	302	977	14	691,227	10,456
\$501 to \$2,000	75	175	117	111,112	14,333	Total			1,903	2,323,795	132,308
\$2,001 to \$4,000	80	255	38	106,970	7,889						
\$4,001 to \$10,000	120	375	56	355,651	16,913						

NOTES

Pt. 1, sec. 2(b)(1).

Base used: Total Federal funds for academic science, fiscal year 1967.

Formula used: 100 percent of first \$50,000; 20 percent, \$50,001 to \$100,000; 10 percent, \$100,001 to \$500,000; 5 percent, \$500,001 to \$2,000,000; 4 percent, \$2,000,001 to \$4,000,000; 2 percent, \$4,000,001 to \$10,000,000; 1.5 percent, \$10,000,001 to \$20,000,000; 1 percent, \$20,000,001 to \$35,000,000; 0.5 percent, \$35,000,001 and above (\$100M=1G of \$1,000,000).

B. DISTRIBUTION TO SELECTED INSTITUTIONS

1. Top 20 in Federal Funds for Academic Science, Fiscal Year 1967

(In thousands of dollars)

	Pt. 1	Pt. 2	Pt. 3	Total IG		Pt. 1	Pt. 2	Pt. 3	Total IG
Massachusetts Institute of Technology (95,487) ¹	977	155	3,536	4,668	New York University (39,363)	697	673	2,636	4,006
University of Michigan (56,344)	782	690	3,296	4,768	University of Washington (38,731)	694	600	1,686	2,979
University of Illinois ² (52,446)	762	896	4,096	5,754	Cornell University (37,741)	689	389	2,108	3,185
Columbia University (52,113)	761	349	1,780	2,890	Johns Hopkins University (34,968)	675	205	790	1,670
University of California, Berkeley (48,889)	744	577	4,225	5,546	University of Pennsylvania (33,770)	663	388	1,589	2,640
Harvard University (48,861)	744	299	2,177	3,214	Yale University (30,926)	634	173	1,434	2,241
University of Wisconsin, Madison (48,290)	742	407	3,375	4,524	Duke University (27,594)	601	151	736	1,488
Stanford University (45,856)	727	231	3,023	3,984	University of Maryland ² (27,138)	596	906	717	2,219
University of California, Los Angeles (45,358)	727	581	2,351	3,660	University of Colorado (24,412)	569	523	1,135	2,227
University of Minnesota ² (42,125)	711	922	2,266	3,898	Total				68,014
University of Chicago (39,583)	698	195	1,560	2,453					

¹ Figures in parentheses on this and following pages represent the base dollars (in thousands) for pt. 1 of the formula. It is the total Federal funds for academic science obligated to the institution in fiscal year 1967, as reported to CASE.

² All campuses.

2. 25 Other Universities¹ Ranked in Order of Ph. D.'s in Science and Engineering for 3-Year Period

(In thousands of dollars)

	Pt. 1	Pt. 2	Pt. 3	Total IG		Pt. 1	Pt. 2	Pt. 3	Total IG
Purdue University (22,379)	549	670	3,263	4,482	Oklahoma State University (8,167)	338	394	1,310	2,043
Ohio State University (23,602)	561	854	2,368	3,781	Texas A. & M. University (13,239)	424	237	1,068	1,728
Iowa State University (10,407)	381	337	1,772	2,490	Oregon State University (10,025)	375	266	1,109	1,751
Michigan State University (19,143)	512	775	2,173	3,460	University of California, Davis (12,635)	415	203	860	1,477
University of Texas, Austin (23,029)	555	597	1,657	2,809	University of Pittsburgh (21,006)	535	501	865	1,902
Princeton University (20,531)	530	95	1,342	1,967	University of Kansas (15,444)	457	316	925	1,697
Pennsylvania State University (18,331)	500	722	1,698	2,920	University of North Carolina, Chapel Hill (23,972)	565	307	809	1,680
Northwestern University (17,233)	484	345	1,320	2,148	North Carolina State University (11,892)	403	192	977	1,571
Indiana University (22,361)	549	971	1,246	2,766	Carnegie Institute of Technology (11,557)	398	105	839	1,342
Rutgers University (13,080)	421	544	1,273	2,238	University of Arizona (20,286)	347	101	711	1,158
University of Florida (15,832)	463	387	1,306	2,156	University of Oklahoma (8,762)	379	446	1,002	1,828
California Institute of Technology (16,911)	479	30	914	1,423		350	363	974	1,687
University of Iowa (15,587)	459	368	1,048	1,875					

¹ These 25 institutions plus the top 20 in Federal Funds for Academic Science constitute the 45 top-ranking producers of science and engineering Ph. D.'s for 3-year period 1963-64 through 1965-66.

3. 20 State Colleges and Universities (Master's the Highest Degree)

(In thousands of dollars)

	Pt. 1	Pt. 2	Pt. 3	Total IG		Pt. 1	Pt. 2	Pt. 3	Total IG
Arkansas State University (109)	61	128	22	211	Jackson State College (Mississippi) (269)	77	60	0	137
San Francisco State College (California) (1,696)	160	358	138	655	Southeast Missouri State College (134)	63	128	0	192
Southern Connecticut State College (348)	85	180	8	273	Chadron State College (Nebraska) (87)	57	37	3	97
Valdosta State College (Georgia) (182)	68	49	0	118	Glassboro State College (New Jersey) (24)	24	159	4	188
University of Northern Iowa (493)	99	165	109	373	SUNY, New Paltz (New York) (355)	86	90	25	201
Kansas State Teachers College (600)	105	139	230	474	Fayetteville State College (North Carolina) (65)	53	23	0	76
Towson State College (Maryland) (630)	107	138	0	244	Indiana University of Pennsylvania (245)	75	44	36	155
State College at Bridgewater (Massachusetts) (101)	60	100	0	160	Southeastern State College (Oklahoma) (346)	85	168	68	321
Western Michigan University (2,228)	184	369	169	722	Winthrop College (South Carolina) (106)	61	63	1	125
Benidji State College (Minnesota) (134)	63	83	8	154	Western Washington State College (405)	91	129	29	249

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to win significant Chinese aid. Incitement and subversion may be attempted through propaganda and, to a modest extent, through money, arms, and training as well. Beyond this, however, Peking refuses to go. This pattern has remained fairly constant, despite the heightened militancy associated with China's Cultural Revolution.

Equally relevant is the low degree of Chinese involvement in Burma's various insurgencies, both communist and those of national minorities. At no time since 1949 has the Rangoon regime been able to pacify the entire country. Much of the territory adjacent to China has been controlled by various armed groups hostile to Rangoon's rule. As in India, Peking's patronage, both overt and covert, encourages and equips communist insurgents and anti-Burmese separatists. Yet neither the amount nor the kind of such aid has seriously threatened the regime. The situation has ebbed and flowed and today seems no worse than in the past, at least in terms of Chinese involvement.

Thailand, of course, has won considerable attention as a public target of Peking's propaganda. Over the past few years actual armed insurrection has spread through provinces in the north, northeast, and southern sectors of Thailand. Most recently Meo revolts have further challenged Bangkok's authority. Some support for these various insurgencies comes from Hanoi; most comes from Peking. Defectors provide graphic evidence of training and direction from Chinese sources on the mainland and in Thailand. Presumably China could easily infiltrate a well-trained guerrilla force that would be wholly Thai in composition, recruited from the 200,000 ethnic Thais in the nearby Chinese province of Yunnan. However, the present insurgents remain a scattered, poorly equipped, un-coordinated force of less than 2,000. This small effort is what lies behind Peking radio's grandiose claims for "people's war" in Thailand.

In short, after twenty years of these unstable situations on the unpoliced borders of a nation with six or seven hundred million people supposedly "supporting" armed struggles abroad, we must ask: what has kept China from doing more? Has it been the fear of U.S. retaliation? This could hardly apply in remote Nagaland or amongst the hill peoples of neutralist Burma. Chinese troops or an indigenous fifth column could march into adjacent territory with overwhelming force and establish a "liberated area" without fear of U.S. power being unleashed against the Chinese mainland. Moreover, where China's interests have been seen by Peking as truly vital, such risks of U.S. retaliation have been taken—overtly in Korea, and covertly in Vietnam.

Thus by focusing less on Peking's words and more on Peking's actions, we can separate out the lesser from the greater Chinese interests. Clearly the Peking leadership does not believe its vital interests include giving significant material support to foreign revolutionary movements. In fact, Mao's doctrine explicitly describes national liberation struggles as essentially dependent on local resources, a "do it yourself" philosophy. This doctrine serves Chinese ethnocentric and practical interests as well. First, it points to the Chinese as the models for guerrilla warfare and prolonged struggle without outside help. The message is clear: "we did it basically on our own; you can too." Second, China's practical interests are served because this general doctrine excludes the necessity of choosing between safe and unsafe situations in allocating Chinese assistance. All people's wars will be treated equally; no risks will be taken because no Chinese aid will be that important. This is the constant in Chinese policy, whether with neutral Burma, hostile India, or American-allied Thailand.

I see no plausible reason for these Chinese calculations to change five years hence. Neither in the first flush of victory in 1949 nor in Mao's last political convulsions during the Cultural Revolution did Chinese armies move across borders on behalf of "people's wars." Mao's successors are unlikely to react any differently to the role China should play in advancing communism abroad. They might conceivably scale down their lip-service to "national liberation struggles," although if the Soviet precedent serves any example, we should not expect this to happen for many years to come. But certainly there is no reason to believe they will take greater risks in staking their prestige, and possibly their country, behind a local insurgency through a show of force or nuclear blackmail.

Indeed, were one to concede any plausibility to this basis for Chinese nuclear blackmail, it would have far more relevance to Chinese deployment of an intermediate range ballistic missile system, targeted against U.S. bases on China's periphery and against cities of our allies. A Chinese ICBM and a U.S.-based ABM would be largely irrelevant to a serious and systematic effort by Peking to back local insurgencies with nuclear force. But even the IRBM alternative assumes so fundamental a change in Chinese doctrine as to raise serious questions of probability.

Moreover, so long as U.S. nuclear power remains capable of devastating China, the credibility of any such blackmail—whether through ICBM's or IRBM's—is so low as to, in all likelihood, discourage its use by Peking. If we assume a burgeoning nuclear missile program in China, we also assume the concomitant infrastructure of technological modernization and all that is entailed in supporting so costly and complicated a military system. This developmental process has a double effect. First, it educates an elite in the long and painful process of pulling a backward country somewhere near the levels of advanced nations. Moreover it increases the vulnerability of their society, no longer dependent on scattered rice-fields but now locked into the urban complex, to nuclear attack. In short, China's acquisition of an operation nuclear missile capability should reduce, not increase, the willingness of Peking to risk nuclear war.

If we shift from so-called "people's wars" to conventional types of conflict, the past twenty years give far more cause for concern in projecting the future. The important uses of Chinese force, with varying degrees of anticipated risk, occurred in Korea, 1950-53; Quemoy, 1954-55 and 1958; India, 1962 and 1965; and Vietnam, 1965-68. Several characteristics link these events together. Every clash occurred in immediate proximity to, if not actually on, China's border. In every case Peking regulated the level and tempo of its military actions so as to minimize the risk of escalation spilling over into China, although accepting some such risk as basically unavoidable. After Korea, Peking never again openly courted U.S. attack against the mainland. On the contrary, it very carefully controlled its actions in the Taiwan Strait crises, and its words in the Vietnam War, so as to avoid provoking us to use either conventional or nuclear force against targets in China.

Looking at the specific issues involved in each clash, these events obviously differ, one from another. The first Sino-Indian conflict of 1962 grew out of a festering border dispute, complicated by Chinese assumptions of foreign exploitation of internal vulnerabilities in the disastrous aftermath of Mao's "Great Leap Forward." However, China's attack in 1965 was part of the Pak-Indian conflict within which Peking had a limited interest on behalf of Pakistan as well as itself. In both Korea and Vietnam, Chinese assistance came

on behalf of a besieged neighbor with a common communist ideology against a commonly perceived enemy, "U.S. imperialism." Finally, the two Quemoy crises arose in the context of China's unfinished civil war into which we interposed our force nineteen years ago and from which we have never disengaged.

One can examine this record much as one looks at the doughnut or the hole. On the one hand, it shows the careful deliberation behind China's use of force in conventional situations commonly encountered in international relations over the past two hundred years. This is the way nations behave, communist or not, Chinese or not. On the other hand, it does show Peking's willingness to take risks and to use its force in situations other than clear and immediate self-defense.

I would suggest that combining both points of emphasis permits us to project a situation when China acquires nuclear weapons which is neither wholly reassuring nor wholly frightening. I suspect this will be more or less true so long as nuclear weapons remain in *anyone's* hands, other than our own, and certainly should they proliferate beyond the present nuclear powers.

There is one aspect of the Chinese situation, however, which is unique compared with our relationship to other nuclear powers: we did intervene and continue to intervene in the Chinese civil war. Moreover, in the second Quemoy crisis of 1958, we provided the Chinese Nationalist forces with eight-inch howitzers publicly identified as capable of firing nuclear shells. Aside from whatever role our threats to use nuclear weapons in 1953 may have played in bringing about a truce in Korea, our nuclear deployment in the West Pacific has taken on a particular salience for Peking because it has provided the ultimate deterrent against Mao's pursuit to the end of his more than thirty years of struggle with Chiang Kai-shek.

Here a bit of historical perspective is in order. For more than one hundred years, China—long confident of its civilization's superiority to the outside world—suffered invasion and exploitation by foreign powers, large and small, European and Asian, largely because of China's material inferiority, especially in weapons. We call this "gunboat diplomacy." Chinese—whether Nationalist or Communist—call it the period of "Unequal treaties and foreign imperialism." Peking's determination to gain sufficient military strength to prevent foreign interference in China's internal affairs made the development of nuclear power in China absolutely essential. Whether against American dominance or Soviet dependence, China's nuclear capability would provide at least psychological and political strength, if not an actual strategic equalizer.

I do not doubt that significant elements in the Chinese leadership—certainly Mao himself—believe their explanation of former Secretary of Defense McNamara's announcement to build an ABM because of the Chinese threat, as a step "taken by U.S. imperialists to continue with their nuclear blackmail and nuclear threats against China" and "another anti-Chinese measure adopted to intensify the administration's collusion with the Soviet revisionist leading clique." If we continue with the ABM and its present justification, we will perpetuate the suspicion, if not the conviction, in Peking that we are determined to maintain maximum military superiority over China so as to act at will in pursuit of our interests, regardless of the consequences for Peking. Given our confrontation over Taiwan and the offshore islands, anything which perpetuates or intensifies the sense of bitterness and frustration in the Chinese leadership must be justified as necessary on other grounds which offset this cost. Seen in this perspective, the ABM is

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not a guarantee against Chinese irrationality or miscalculation but rather may actually be a further goad to Chinese assumptions of our malevolence and permanent enmity.

STATEMENT BEFORE THE SUBCOMMITTEE ON INTERNATIONAL ORGANIZATION AND DISARMAMENT OF THE SENATE COMMITTEE ON FOREIGN RELATIONS BY MARSHALL D. SHULMAN, PROFESSOR OF GOVERNMENT, AND DIRECTOR, RUSSIAN INSTITUTE, COLUMBIA UNIVERSITY, MARCH 13, 1969

Mr. Chairman, I address myself to some international political aspects of the question whether the United States should now deploy some form of anti-ballistic missile system, and in particular, I would like to suggest how I believe this decision affects, and is affected by, our relations with the Soviet Union.

I am not competent to testify regarding the technical aspects of the question, but I think it is evident that the matter is by no means a purely technical one, and that even if the question of technical feasibility were wholly satisfied, the political context in which this decision is made deserves serious consideration.

In the course of the public discussion of this question, there is no disagreement, I believe, that the central issue is how best to strengthen the security of the United States. The disagreements arise over how to think about security, in the light of the new conditions now prevailing, involving a complex and rapidly changing weapons technology, and an intricate process of interaction between the Soviet Union and the United States, whose policies are deeply influenced in both cases although in different ways by the interplay of political and social forces which we do not yet understand very well.

My testimony is divided into two parts: Background and Recommendations.

I. BACKGROUND

(1) Until a few years ago, the strategic military relationship of the Soviet Union and the United States had reached a plateau of relative stability, based upon a gross balance of mutual deterrence, despite considerable disparities between the two arsenals. Experience had taught both countries a considerable measure of sobriety, and in practice there developed significant tacit restraints which introduced some measure of stability in their strategic military competition. However, the quest for superiority by each country and the appearance of a new generation of technological innovations now threaten to undermine that tenuous stability. From the Soviet point of view, the United States has by and large appeared to be the pacesetter, and the Soviet Union has been making a strenuous effort in recent years to catch up. Both countries are now in the grip of technological possibilities—improved accuracy, more target information from reconnaissance satellite photography, greater range and yield, multiple guided warheads, advanced computer technology, and potential military uses of outer space and the sea-bed—which call into question the relative invulnerability of the retaliatory deterrence on which the previous stability was based. This circumstance is an important part of the context within which the ABM question arises.

(2) There has been a spiral of interaction between the two countries, which stems partly from the fact that strategic policy is often determined by bureaucratic politics and psychological apprehensions, with rational doctrine coming along as an afterthought. The interplay of forces and interests operating on the decision-making process within each country is affected by that on the other side, with the result that a reciprocal process of simulation has sometimes been set in motion. However, there is often a lag in time involved, during which ideas are diffused and sink in and get translated into action by cumbersome bureaucratic processes,

with the result that we have often not recognized a reaction for what it is, but have taken it as a new initiative, reflecting a change in intentions. For example, it appears probable to me that the increased rate of intercontinental missile deployment by the Soviet Union of which we became aware a few years ago may reflect a decision taken in response to the steep rate of increase in our missile program foreshadowed in the 1961 U.S. budget, which was in turn a response to our estimate of what the Soviet missile program of 1958 might have projected.

(3) Soviet policy in the present period, particularly as it affects domestic and Eastern European developments, appears to be dominated by the orthodox wing of the Communist Party bureaucracy, and is marked by a preoccupation with ideological conformity among intellectuals, artists and nationality groups. While some of the social tensions stem from factors that also appear in the United States and elsewhere in the world, the modernization of the economy within the Soviet Union and in Eastern Europe raises special and difficult questions for a centralized system of Party governance, and this may in part be responsible for the present tightening of ideological control. If there should be a relaxation of the level of tension with the United States, it is quite possible that this will be accompanied, as has been the case at times in the past, by a further tightening of police and Party vigilance against "contamination by bourgeois ideology." However, the Soviet effort to increase its influence in areas where U.S. influence has receded, as in the Middle East, sets limits on the degree of détente that can be expected in the present period.

(4) Among the considerations which weigh heavily upon the Soviet leadership in the present period, as it faces the problem of drafting a Five Year Plan for the allocation of resources for the period 1971-1975, is the drain on resources generally and upon advanced technology in particular as it contemplates the upward spiral of the strategic arms race. One year ago at this time, the Soviet leadership was engaged in a hard-fought debate, whether to enter into talks with the United States to damp down the strategic arms race. By the late spring of 1968, this issue was settled in favor of entering into such talks. We do not know what coalition of interests may have carried this decision or how far this coalition would be prepared to go in actual negotiations—it may be that the only agreement reached at that time was to let the talks begin—but it does appear to be the case that a serious concern about economic costs has been an important factor in impelling the Soviet leadership to want to find out how far the United States is prepared to go in checking the upward spiral of the strategic arms race.

(5) As of this moment, the Soviet attitude toward the new American Administration is tentatively hopeful, with many reservations in the background. Despite its past feelings about the new President, and its anxieties about pressures it sees toward the militarization of the American society, the Soviet press and leadership appear to believe that "objective circumstances"—meaning domestic social tensions in the United States, budgetary pressures, and the pacific inclination of the American people—together with the practicality of the President may create a present opportunity for moderating the strategic arms race in some measure.

(6) The rise in publicized hostility between the Soviet Union and Communist China is a factor that may operate in several contradictory directions. The Soviet Union has clearly been anxious about the possibility of an alliance between China and the United States, however remote that prospect now appears to us; I do not, however, see the possibility of a Soviet alliance with the United States against China in view of

the intensity of the residual hostilities in our relationship. Nevertheless, some quiescence in its relations with the United States may seem attractive in a period of intensified conflict on the Chinese border. On the other hand, this conflict also catalytically increases Soviet interest in defense, and sets limits on the possibilities for overt collaboration with the United States.

(7) Soviet thinking about the significance of ABM may have gone through changes with time. The original deployment decision appeared to be something of a "politician's compromise" among conflicting pressures, and it corresponded to a folk-wisdom feeling about the defense of Moscow. Over time, however, the decision seems to have been weakened by a growing realization of the ineffectiveness of that particular system and its stimulating effect upon the U.S. strategic budget. In recent years, serious analytical writing on the ABM in military doctrine has dropped out of the public press. With regard to the U.S. decision to deploy Sentinel, the Soviet press has not until recently expressed deep concern, except for the worry that a thin ABM might soon put on more weight. Although evidence is lacking, I believe the ABM by itself may be of less concern than the ABM in its context, which includes the deployment of MIRVs and other technological developments previously mentioned, especially the improvement of missile accuracy. Taken together, these may seem to give some plausibility to the arguments of those who claim the U.S. is bent on achieving a first-strike capability. The Soviet response could be expected both on the psychological level and on the level of military strategy—as was our response to the Soviet ABM—and would involve the acceleration of technological innovations which would, in turn, lead to a further American response.

II. RECOMMENDATIONS

With this background in mind, Mr. Chairman, I find myself impelled to the following conclusions:

(1) In the absence of a compelling case for the immediate deployment of an ABM, and a persuasive case for the feasibility of the proposed system, I believe that any such deployment should be put on "Hold" at the present time, while continuing our research and development on various anti-ballistic-missile systems. There are risks and costs to such deferment, but I believe they are less than the risks and costs of stimulating a continuation of the upward spiral of the strategic arms race, and delaying a possible agreement with the Soviet Union until it becomes even more difficult to achieve than it would be today.

(2) Even more important, I believe, would be an effort on our part to begin the process of negotiations with the Soviet Union on the damping down of the strategic arms race as soon as possible, with a clear indication of the seriousness of our intentions to achieve stability, leveling-off and, when possible, reductions. One essential mark of our seriousness would be a clear indication of our willingness to exercise restraint in the further deployment of Poseidon, Minuteman III and other advanced offensive weapons. There are also risks to this course, but if our security is best advanced at this stage by a stable deterrent balance at a moderate level, the risks are neither disproportionate nor irretrievable.

(3) I would recommend that we carefully avoid creating undue expectations for early and dramatic results in such negotiations. It seems likely that these talks may take a long time, that they may involve procedural wrangles and set-backs, and that they may at best produce tacit and reciprocal restraint rather than treaty agreements. We should also remind ourselves that these talks are not likely to produce an across-the-board détente, nor to settle other important political differences.

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(4) The Administration should be commended for its effort to move ahead on a number of political issues with the Soviet Union, but the missile talks should not depend upon the successful outcome of these efforts. It is evident that progress in the missile talks would be difficult if the Soviet Union sought to gain political advantage from the climate created by the fact of the talks themselves, or if the Soviet Union were actively fanning the sparks in the Middle East, or if the United States were engaged in bombing North Viet Nam. But the point should be clearly established that there is an overlapping interest on the part of the Soviet Union and the United States equally in leveling-off the strategic arms race, even though the political rivalry between the two countries is not now substantially abated, as it may not be for some time.

(5) It follows also, Mr. Chairman, that it would not be wise to deploy an ABM system in the belief that it would improve our bargaining position in relation to the missile talks. To do so would be more likely to strengthen the position of those on the Soviet side who are only too ready to argue that the United States is too committed by its system or its pressure groups to an arms race to be seriously interested in its abatement.

(6) I would not argue that every level of anti-ballistic missile deployment under every circumstance is necessarily destabilizing. I can conceive of circumstances arising in the course of these negotiations in which the Soviet Union might indicate it would not wish to contemplate the dismantling of its ABM installations. It could then accept with equanimity some moderate level of ABM protection for the invulnerability of our fixed-site missiles, our command and control installations and our Strategic Air Force, as a stabilizing factor in the deterrent balance. In such a case, I would think it important that both by Presidential declaration and by the physical disposition of these facilities, it should be made clear that they will not be used as building blocks toward a thick ABM systems for the defense of cities, thus degrading the Soviet deterrent. In such a circumstance, progress in the missile talks and restraint in the deployment of advanced offensive weapons would be necessary concomitants to these deployments.

(7) Finally, Mr. Chairman, I would urge that we never lose sight of our longer-term objective to work our way out from under the balance of terror, toward agreed reductions in strategic weapons as these become possible, and toward at least tentative first steps to forms of security that need not hold our people in precarious hostage.

Thank you, Mr. Chairman.

STATEMENT OF CARL KAYSER FOR THE SUBCOMMITTEE ON DISARMAMENT, SENATE FOREIGN RELATIONS COMMITTEE, THURSDAY, MARCH 13, 1969

The question to which I am addressing myself is, "Should the Government of the United States now go ahead with the proposed deployment of the Sentinel Anti-Ballistic Missile System?" This question in turn must be divided into two parts: first, whether the deployment that has recently been proposed should go forward—namely, that of a "thin" area defense over the whole country, relying primarily on the *Spartan* long-range, high-altitude interceptor missile but incorporating also a number of *Sprint* shorter-range, lower-altitude interceptors used mainly to defend the radar installations of the system—and second, whether, alternatively, there should be a modified deployment which would be designed primarily to defend Minuteman missile sites and bomber bases, but which would still contain a substantial element of area defense.

My answer to the question is "No."

This response is based primarily on two propositions: (1) we do not need such a de-

ployment now to increase our security; (2) since we don't need it, we must not do it because it is expensive and there are more pressing claims on our resources and efforts which merit higher priority than a large new military system that is not strictly necessary.

Further, it is my judgment that the deployment of a Sentinel system in either of the modes described above is more likely to decrease than to increase our security. Agreement with this third proposition is not strictly necessary to a conclusion that a deployment decision is not in order, but obviously it reinforces greatly the more narrowly based argument that rests on the first two propositions above.

My first proposition—that we do not need an ABM system now for security reasons—requires elaboration. The primary function of the large, complex strategic weapons systems we have built up over the last decade and a half is to insure that no adversary with a large strategic capability will be tempted to use it against us. Our present system does that by its capability to inflict a very high level of damage on even the largest and most powerful potential adversary—i.e. the Soviet Union—after that adversary has made a surprise attack on us. In the face of that capability, such an attack would be irrational. This deterrent posture has been efficacious in the face of a large build-up in Soviet striking strength. The present size and disposition of our offensive forces and the associated intelligence, warning, command and control systems, is such as to insure that they can continue to perform this function effectively in the near future, say the next three to four years. Whether they can do so in the further future is a different question to which I will return in a moment. The proposed ABM system will add little if anything to the capability of our forces to continue to perform this deterrent function. Their own performance is quite uncertain, and their effect in adding to our very large retaliatory capacity—what the Defense Department has come to call our capacity for assured destruction—is marginal at best if the system performs well and may be nil or even negative if it performs badly. You have already heard from scientists of great technical competence and experience on the complexities of the system and the difficulties of predicting its performance. Since I am neither scientist nor engineer, I can add nothing from my own knowledge to what you have already heard. Further, the Soviet Union can readily take responsive measures in the way of adding to their offensive force, improving the penetration capability of their reentry vehicles and the like, which can be expected to overcome a very substantial part, if not all, of whatever defensive capability the ABM system possesses.

Second—as far as its supposed function of defense, in the event of nuclear war, the proposed system may have some value if the Soviets do nothing to respond to it. With the system we might sustain fewer casualties in the event of deterrence failing and war coming, than without it. However, we must remember that our primary reliance is on deterrence, and that damage limitation is, and has been, at best a poor and weak second. In the past damage limitation has been argued for in somewhat inconsistent terms, partly as a kind of nearly free add-on to what were essentially deterrent forces, partly as a somewhat euphemistic way of discussing something that was nearly, but not quite, a first-strike capability. Even separately, these arguments are not persuasive. Together they tend to be contradictory. They become no more effective when the mode of damage limitation is defensive rather than preemptive. Further, the more it appears that the system could achieve a significant defensive result, the more likely it is that the Soviets will respond to it in such a way as to negate most of its effect,

Soviet capabilities, both in terms of current deployments and development in production potential for improving and increasing them are such as to make it impossible for our strategic forces to do much more for us than provide mutual deterrence. The existence of these forces, confronting large and similarly stable Soviet second-strike forces, does provide some general extra restraint on both powers in respect to any action which might lead to military involvements and the awful threat of escalation. Even this restraint is imperfect, as the recent past has shown. However, it is clear to me, and I think to every other careful observer, that strategic striking power cannot now, has not in the recent past, and will not in the foreseeable future, offer the kind of military threat vis-à-vis the Soviet Union that is translatable into useful political power, precisely because the Soviet Union offers and can continue to offer the same kind of threat to us.

On the scale and in the mode originally proposed, the Sentinel system would simply make no essential difference in respect to our strategic relations with the Soviet Union as far as mutual deterrence goes, even if the Soviet Union does little to respond to its deployment. Of course, we cannot predict that they will not respond. If the system is deployed on a larger scale than is now proposed—i.e. if the "thin" system grows up to a "thick" one—we must anticipate a Soviet response. It has never been our policy, and I think it never should be, to seek a first-strike capacity vis-à-vis the Soviet Union. If we were seeking such, and an ABM were big enough, reliable enough, and not capable of being effectively countered by Soviet response, then its deployment might indeed alter significantly the strategic balance. But none of these conditions holds.

The original rationale of Sentinel deployment and "thin" area defense to protect the whole country against a Chinese missile attack in the mid or late 70's was never convincing. It seems to have been abandoned by its proponents. An attack on the United States by the strategically weak Chinese would be wildly irrational. The U.S. has a first-strike capacity against China now. Are we seeking to extend it? To use it? Do we really believe that while we do deter the Soviets, we cannot deter the Chinese?

If the rationale for the deployment of Sentinel is shifted once again and becomes that of defending our bomber bases and Minuteman sites, we can say again, "It's not now needed." The survivability of a sufficient striking force for effective deterrence is not in doubt now and does not appear likely to be in the near future. To the extent that, in the further future, it becomes in doubt, the question of whether the Sentinel system, designed for quite another task, is the efficient mode for increasing that survivability deserves careful examination. For example, it is obviously cheaper, simpler and quicker to increase the survivability of the bomber force by spending the extra money required to increase the number of planes on air-alert or provide for a large number of additional bases, rather than to erect an elaborate missile system for close-in defense of bomber bases.

My second proposition hardly needs elaboration. Deployment of the Sentinel system will cost us \$5 to \$10 billion over the next several years. The Senate needs no instruction on the variety of pressing needs for which these sums could be used. If, as I have argued above, Sentinel is not a necessity for our security, then there is every reason to seek higher priority uses for Federal funds. Not only is the money important, but the question of political effort and priority is also important. The question of how we value what may at best be a marginal addition to our defense in relation to what are clearly major urgent needs in domestic areas is deeply involved.

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In my own view, the argument goes beyond the two points that I have made. A decision to begin now to deploy the Sentinel system will detract from our security, not add to it. The argument for this view is complex; it involves a further forecast into what is inevitably an uncertain future and includes an important element of judgment, but so, of course, do the arguments the other way. Forecasts and judgment cannot be escaped. The military technology embodied in the forces that we and the Soviet Union now have deployed is such as to make the maintenance of deterrent stability relatively secure. The nature of the forces is such that a would-be attacker can hardly entertain a belief in his ability to succeed. Further, each side has a clear notion of the forces which the other side commands. The next stages of the evolution of the technology of strategic weapons will change that situation in a drastically unfavorable way. The combination of ABM defense, MIRVs, and mobile missiles, toward which both sides appear to be moving offers much less prospect of certainty and stability of deterrence. Our most urgent task in maintaining our security is to insure the kind of arms control negotiations which have a good prospect of closing off movement in this direction. An immediate decision to deploy will do nothing to help that process and may hinder it. It will stimulate forces both within our own governmental system and within the Soviet system that will push toward further radical changes in weapons.

It has been stated by some that, if we fail to deploy the ABM, we will be throwing away a bargaining card for negotiation with the Soviet Union. I cannot understand this argument. The future capacity to deploy, and perhaps to deploy a better conceived and designed system is all the bargaining card we need. Actual deployment, by revealing what we are doing, diminishes rather than increases the effectiveness of our bargaining position.

Finally, there is an even larger and deeper issue. Do weapons dictate policy, or do we decide on the basis of our policy concepts what weapons we wish to deploy? As new and frightening technological possibilities open up before us, I think this is the most important question that the Senate, the Government, and the country must face.

PITTSFORD, N.Y.,
March 13, 1969.

Senators ALBERT GORE and JOHN SHERMAN COOPER,
Subcommittee on Disarmament, Foreign Relations Committee, Old Senate Office Building, Washington, D.C.

During my five years as science advisor to President Johnson I studied, with the aid of distinguished consultants, the question of ABM systems, their technical capabilities and their relations to our overall strategic position. I came to the conclusion then and believe now that the deployment of any of the proposed ABM systems would impair the security of the United States and retard progress toward a stable, peaceful world.

I can see no necessity for the deployment of a system to protect us from the Chinese. If our ICBM, Polaris and bomber forces are adequate to deter the Soviet Union, which possesses very large nuclear forces of its own, the deterrent against China is overwhelming for the foreseeable future.

As for an ABM defense against the Soviet Union, there is no present prospect of a defense which could stop a large-scale attack. Any system which I have examined was vulnerable in various respects, and in any case could be relatively easily countered by new developments in offensive weapons and tactics.

ABM systems cannot be considered in isolation. They would become part of an offense-defense game in which, at present, the offense seems to have the advantage. In any case, whatever initial system we deploy would

have to be constantly elaborated and improved and eventually replaced by newer generation of ABM systems as the other side increased the quantity and quality of its offensive forces. This it would inevitably do if the ABM system had any effectiveness, so that even the cost of the so-called full system would only be a down payment on the eventual expense. More important still, it would lead to continual escalation in the armament level of both sides with no increase in security. Indeed, if one reflects that in the face of a stronger Soviet force we would rely on a fantastically complicated system which could never be tested full scale and whose overall reliability would never be known, I believe that our security would decrease.

In my view the question of whether we would be defended better with or without an ABM system can only be answered by considering our overall strategic situation. Since so much is at stake, this should be reviewed free from historical or partisan bias or vested interest. For this reason I support the proposal by Dr. Killian that a broadly based national commission be created to study the total problem.

At this time I believe deployment of ABM would be contrary to the national interest and might well impede what I consider the most urgent business, to get on with talks aimed at the possibility of limiting the further expansion of nuclear armaments.

DONALD F. HORNIG.

Mr. MOSS. Mr. President, I am opposed to the Sentinel anti-ballistic-missile system. I was opposed to it when President Johnson first proposed that it be deployed, and I voted twice in the Senate to postpone deployment. There is nothing which has occurred since I cast those votes to change my mind and I intend to vote against deployment once again.

The country and the Congress are in a state of anticipation today as the countdown continues at the White House. It is expected that the President will announce his decision on the ABM at his press conference tomorrow. I ask him to call a halt on ABM. I cannot believe that with all of the hard facts—the scientific facts—he has at hand, that he will decide to resume emplacement of this system which is so obviously ineffective at this point in time.

If a nuclear war ever starts, it will be lost in that moment. I do not hold with the argument that we might, with an antiballistic system, reduce casualties from 100 million people to maybe 70 or 80 million people. Does one call that a victory? To any but the military mind, to call this a victory is absurd.

What the administration is talking about is a thin system which it hopes would be an effective guardian against the Chinese. To me it is unbelievable that China with its primitive missile arsenal, would attack the United States, since we have the capacity to retaliate by wiping out most of their cities within minutes.

But, even if a case could be made for a thin missile system as a defense against the Chinese, once such a thin system were adopted it would be a short step to the thick system urged as a defense against the Soviet Union, and we would be thrust in a monstrous open-ended weapons race which could escalate the cost of ABM, now billed as a \$5 billion venture, to \$100 billion a year. And still no assurance that it would be really effective.

The scientific community is opposed to the Sentinel system, and some of their spokesmen have told us why with brilliance and clarity in the last 2 days. Many of our military leaders have little faith in it. Millions of Americans are opposed to it, not only because they feel it would be useless, but because it would add an even greater threat to our cities than they now face.

Mr. President, the ABM system would not be, as some insist, America's best mainstay against attack, enhancing our security, but instead would become America's biggest miscalculation, because it would escalate the arms race to an ever higher rate of peril, and make it all but impossible to bring the deadly competition in overkill under effective control.

If a nuclear war ever starts, which God forbid, it will be lost in that moment. We know that the Soviets have a limited defense system, but we do not know how good it is. If we insist, because the Russians have one, that we must adopt a similar system and a better system, we will be triggering an arms race whose end we cannot foresee. If we build the Sentinel system, it will merely increase the possibility that it will have to be used. We must have the courage to move toward a more peaceful world, toward nuclear weapon limitation.

SENTINEL ABM SYSTEM

Mr. KENNEDY. Mr. President, this week, the Committee on Foreign Relations has heard the testimony of six eminent Americans—all of them opposed, for various and differing reasons, to deployment of the Sentinel anti-ballistic-missile system. Taken as a whole, I find this testimony so compelling and persuasive that I believe it should be made widely available.

I noticed in the last few minutes that the Senator from Tennessee (Mr. GORE), who is chairing the hearings, placed that testimony in the RECORD and I urge all my colleagues to read it very carefully.

I do not think that the arguments these gentlemen made need restating on the Senate floor today. Instead, I should like to point out that the expertise they brought to their testimony—expertise in science, in foreign relations, in public policy service at the top of our Government—is unique in its breadth. I hope, as a result, that their testimony is closely studied.

One particular suggestion by one of the witnesses—the chairman of the board of the Massachusetts Institute of Technology, Dr. James R. Killian—deserves further comment. In his testimony, Dr. Killian made the suggestion that there be created an ad hoc commission or task force to make an "independent, comprehensive study in depth of our weapons technology and of the factors which bear upon the decisions the Nation must make regarding ongoing strategic forces and policies." I do not think the value of this proposal can be overstated.

In Dr. Killian's words, the work of such an ad hoc commission or task force would have special value to the Nation

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and the Congress for the overriding reason that its proposals would be independent conclusions reached by a group of competent citizens who were free of organizational loyalties. It was precisely this kind of thinking which motivated me to ask Dr. Jerome Wiesner and Prof. Abram Chayes to organize a report to me and to the Congress on the Sentinel ABM system. I was concerned that we would not have available to us, as we debated the Sentinel and the budget requests to support its deployment, any comprehensive and coherent body of information which presented the arguments of those who opposed deployment.

Were Dr. Killian's suggestion adopted, then we would have a dispassionate evaluation available to us not only on the Sentinel ABM system, but on our entire strategic and other weapons systems as well. The experience of the Gaither Commission, appointed in the early 1950's and whose recommendations both greatly altered and still influence the direction our weapons policies take, is an instructive example of the worth of this concept. Coming as it would at a crossroads in our history, such a report could prove of signal value in bringing us closer to a safe and sane world. It is my hope that such an ad hoc task force or commission is appointed soon, and that its work is available in a relatively short time.

Dr. Killian's suggestion raises a larger and deeper issue, which Dr. Carl Kay-sen phrases this way in his testimony:

Do weapons dictate policy, or do we decide on the basis of our policy what weapons we wish to deploy?

There is a growing feeling that for far too long weapons have dictated policy, and that President Eisenhower's warning about the influence of the military-industrial complex has not been closely heeded.

We must be vigilant to assure that the decisionmaking process for matters so vital as our weapons policies is an orderly and open process. If it is not, then we will continue to have our priorities distorted and our security imperiled. This is the lesson of the current debate over the Sentinel system, a lesson whose importance we cannot neglect.

STRIKING OF MEDALS IN HONOR OF THE DEDICATION OF THE WINSTON CHURCHILL MEMORIAL AND LIBRARY

Mr. SPARKMAN, Mr. President, I ask unanimous consent that the Senate proceed to the immediate consideration of S. 1081.

The PRESIDING OFFICER. The bill will be stated by title.

The LEGISLATIVE CLERK. A bill to provide for the striking of medals in honor of the dedication of the Winston Churchill Memorial and Library, reported with amendments, on page 2, line 2, after the word "President," strike out "There is hereby authorized to be appropriated the sum of \$3,000 to carry out the purposes of this section." and insert "Provided, That the Fulton Area Chamber of Commerce, Incorporated, agrees to pay, under terms considered necessary by the

Secretary to protect the interests of the United States, all costs incurred in the striking of such medal."; and, in line 11, after the word "than", strike out "ten" and insert "five"; so as to make the bill read:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a), in honor of the dedication of the Winston Churchill Memorial and Library at Westminster College in Fulton, Missouri, in May 1969, the President is authorized to present in the name of the people of the United States and in the name of the Congress to the widow of the late Winston Churchill a gold medal with suitable emblems, devices, and inscriptions to be determined by the Fulton Area Chamber of Commerce, Incorporated, subject to the approval of the Secretary of the Treasury. The Secretary shall cause such a medal to be struck and furnished to the President. Provided, That the Fulton Area Chamber of Commerce, Incorporated, agrees to pay, under terms considered necessary by the Secretary to protect the interests of the United States, all costs incurred in the striking of such medal.

(b) The die from which such gold medal is struck shall be marred and donated to the Winston Churchill Memorial and Library for display purposes.

SEC. 2. (a) The Secretary of the Treasury shall strike and furnish to the Fulton Area Chamber of Commerce, Incorporated, not more than one hundred thousand duplicate copies of such medal in silver and bronze (of which not more than five thousand copies shall be in silver). The medals shall be considered to be national medals within the meaning of section 3551 of the Revised Statutes (31 U.S.C. 368).

(b) The medals provided for in this section shall be made and delivered at such times as may be required by the Fulton Area Chamber of Commerce, Incorporated, in quantities of not less than two thousand, but no medals shall be made after December 31, 1969.

(c) The Secretary of the Treasury shall cause such medals to be struck and furnished at not less than the estimated cost of manufacture, including labor, materials, dies, use of machinery, and overhead expenses, and security satisfactory to the Director of the Mint shall be furnished to indemnify the United States for full payment of such costs.

The PRESIDING OFFICER. Is there objection to the present consideration of the bill?

There being no objection, the Senate proceeded to consider the bill.

Mr. SPARKMAN, Mr. President, I move that the committee amendments be agreed to en bloc.

The PRESIDING OFFICER. Without objection, the amendments are agreed to en bloc.

The bill is open to further amendment. If there be no further amendments to be proposed, the question is on the engrossment and third reading of the bill.

The bill was ordered to be engrossed for a third reading, was read the third time, and passed.

S. 1560—INTRODUCTION OF A BILL TO AMEND INTERNAL REVENUE CODE OF 1954 TO PREVENT FARM OPERATION LOSS WRITE-OFFS

Mr. MILLER, Mr. President, for myself and Senators GRIFFIN and COOK, I introduce for appropriate reference a bill to amend the Internal Revenue Code

of 1954 to prevent farm operation loss write-offs for tax purposes in the case of taxpayers whose principal business activity is not farming. I ask unanimous consent that the bill be printed in the Record at the conclusion of my remarks.

The PRESIDING OFFICER. Without objection, the bill will be received and appropriately referred; and, without objection, will be printed in the Record at the conclusion of the Senator's remarks. (See exhibit 1.)

Mr. MILLER, Mr. President, this bill is basically the same as the one I introduced last year—S. 3443, with amendment.

Its approach is to prevent any tax loss writeoff, with certain exceptions to cover off-farm wages and salaries and losses resulting from flood, drought, hail, and other type casualty. In this respect, my bill differs from several other bills introduced recently on this subject which permit varying amounts of tax loss writeoffs and, to this extent, fail to plug the loophole.

These other bills also tend to force farmers to change their accounting systems from the cash basis to the accrual basis, which is considerably more complicated. They do so by excepting accrual basis farm operations from the prohibition against tax loss writeoffs within the varying amounts specified in the bills. My bill would leave cash basis farmers alone. Furthermore, by excepting accrual basis farm operations, the loophole permitting tax loss writeoffs would not be closed.

The policy behind my bill and others introduced on this subject is to protect the commercial farmer from unfair competition which results when individuals and corporations not primarily engaged in farming operations can deduct losses from farming operations against income in high income tax brackets. The tax law developed on so-called hobby farmers is inadequate for this purpose, because the court decisions permit loss writeoffs if there are businesslike operations with "a reasonable expectation of profit." Most loss writeoffs involve businesslike operations, and the line between those with a reasonable expectation of profit and those without a reasonable expectation of profit is extremely difficult to draw. Meanwhile, Uncle Sam absorbs a large amount of the loss burden, ranging up to 77 percent, depending on the income bracket of the taxpayer.

Worse yet, a top income bracket taxpayer can, using proper planning, convert \$1 of loss into 77 cents of tax savings; and then, by selling off his farm assets lock, stock, and barrel realize long-term capital gain of \$1 with maximum tax of 25 cents.

The extent of these tax loss writeoffs is reflected in a study of 1966 income tax returns by the Internal Revenue Service which shows that 75 percent of the 4,778 individuals who had farm operations and incomes over \$100,000 deducted \$72 million in farm losses against their other income.

A more complete breakdown shows: Millionaires: of the 103 involved in farming operations, 15 showed a net profit and 88 or 85.4 percent showed a net loss; \$500,000 to \$1,000,000: of the

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228 in farming, 27 showed a net profit and 201 or 88.1 percent showed a loss; \$200,000 to \$500,000: of the 1,104, 209 showed a net profit and 895 or 81.1 percent showed a loss; \$100,000 to \$200,000: of the 3,343, 986 showed a net profit and 2,357 or 70.5 percent showed a loss; \$50,000 to \$100,000: of the 14,202, 5,622 showed a net profit and 8,580 or 60.3 percent showed a loss.

A U.S. Department of Agriculture study, released about the same time as the Internal Revenue Service survey, discloses that nonfarm business income was reported most frequently by those with the largest farm losses. Although the USDA study was based on 1963 income tax returns, it shows the depth of the problem, which is even greater today. The study shows that individuals with farm losses reported nonfarm income nearly twice as often as those with farm profits, and their nonfarm business income averaged more than twice that of persons with farm profits. Out of a group classified by the study as "well off," comprising almost a quarter of a million individuals, approximately 111,000 reported farm losses and more than 38,000 reported farm profits of less than \$12,000. Of the 66,000 individuals who were classified as "wealthy," more than two-thirds reported farm losses, with the average losses reported being \$14,110.

A properly designed tax law is needed. Tax loss farming is detrimental to the regular farmer in that it tends to push up the price of farmland. This, in turn, pushes up the land values and property taxes of regular farmers. Furthermore, the fact that farmowners with nonfarm income in high-income brackets may consider a farm profit, in the economic sense, unnecessary for their purposes places the ordinary farmer at a disadvantage when competing in the marketplace. Because he does not have to depend on his farm operations for a livelihood, the high-income bracket taxpayer can demand less for his products than the regular farmer, who needs to make a profit to be able to stay in business.

If farm losses could not be offset against nonfarm business income, these multibusiness individuals and corporations would get out of farming or they would help fight for better prices and lower costs of production.

The bill I have introduced follows an uncomplicated formula. It would provide that, except in the case of a taxpayer engaged in the business of farming as the principal business activity, the deductions attributable to the business of farming—which include losses—may not exceed the gross income derived by the taxpayer from the business of farming for the taxable year plus, in the case of an individual residing on the farm, the gross income derived by such individual and his spouse from wages and salaries, timber located on the farm, and royalties derived from property on which the farming operations are conducted.

A taxpayer is deemed to be engaged in the business of farming as the principal business activity if net income from farming for the 3 preceding taxable years—or so many of such preceding

years as the taxpayer has been engaged in the business of farming—equals or exceeds two-thirds of total net income for such years. This conforms to the congressional definition of a "farmer" for purposes of filing a declaration of estimated tax.

The bill defines "business of farming" to include the holding of property used in farming. Thus, the so-called "investor" in livestock operations is prevented from benefiting from loss writeoffs.

Appropriate exemptions are provided to the general rule. Thus a deduction would not be disallowed if it is attributable to drought, abnormal weather conditions or other casualty; to a research or experimental farming operation conducted under a program approved by the U.S. Department of Agriculture, a State department of agriculture, or an agricultural school of an accredited college or university; or to farming operations consisting of egg or broiler production—which is a special situation not involved in the tax loss writeoff problem.

A farm enterprise acquired from a decedent and a farm enterprise acquired by foreclosure are also excepted from the limitation of the bill for the taxable year in which the farm enterprise is acquired and for two succeeding taxable years. This would give taxpayers acquiring, for example, a farm by devise or debt settlement a reasonable opportunity to place the farm on a profitmaking basis or to sell it within a reasonable period of time.

The final exception is in the case of a farming enterprise which comprises a part of an estate. In such a case the limitation would not apply to the estate for the first 2 taxable years if the business of farming was the principal business activity of the decedent for the last full taxable year before his death.

The bill authorizes the Secretary of the Treasury to prescribe regulations to carry out the purpose of the bill including specific regulations dealing with a taxpayer who has more than one business of farming and a business of farming which is carried on by a partnership or by a subchapter S corporation. Under these regulations, the Secretary would make it clear that if a taxpayer had more than one business of farming they would be treated together, and the income and deductions of a partnership or a subchapter S corporation would be treated as the income and deductions of the members or shareholders, respectively.

Mr. President, the bill I have introduced would not prohibit farming operations by nonfarmers. It would simply put an end to the use of farming as a tax avoidance mechanism by some individuals and corporations which results in unfair competition with the regular farmer.

The bill (S. 1560) to amend the Internal Revenue Code of 1954 to limit losses allowable with respect to farming operations which are incurred by taxpayers whose principal business activity is not farming, introduced by Mr. MILLER (for himself and other Senators), was received, read twice by its title, referred to the Committee on Finance, and ordered to be printed in the RECORD.

EXHIBIT 1

S. 1560

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) part IX of subchapter B of chapter 1 of the Internal Revenue Code of 1954 (relating to items not deductible) is amended by adding at the end thereof the following new section:

"Sec. 277. Limitations on deductions attributable to certain farming operations.

"(a) General Rule.—Except as provided in this section and except in the case of a taxpayer engaged in the business of farming as the principal business activity, the deductions attributable to the business of farming which, but for this section, would be allowable under this chapter for the taxable year shall not exceed an aggregate amount equal to the sum of—

"(1) the gross income derived from the business of farming for the taxable year, and

"(2) in the case of an individual whose principal residence is on a farm, the gross income derived by such individual and his spouse for the taxable year from (A) wages and salaries for personal services, (B) timber located on a farm, and (C) royalties derived from property on which the taxpayer's farming operations are conducted.

"(b) Business of Farming.—For purposes of this section, the term 'business of farming' includes the holding of property used in farming.

"(c) Farming as Principal Business Activity.—

"(1) In general.—For purposes of subsection (a), the business of farming is the principal business activity of a taxpayer for a taxable year only if the net income from the business of farming for the three preceding taxable years (or so many of such preceding years as the taxpayer has been engaged in the business of farming) equals or exceeds two-thirds of the total net income of the taxpayer for such years.

"(2) Net income from business of farming.—For purposes of paragraph (1), the net income from the business of farming of a taxpayer for any taxable year is the sum of—

"(A) the gross income derived from the business of farming for such year minus the deductions attributable to such business, and

"(B) the full amount (if any) by which the gains from sales or exchanges of property used in the business of farming (within the meaning of section 1231 (b)) which are treated as gains from sales or exchanges of capital assets exceed the losses from such sales or exchanges.

"(3) Total net income.—For purposes of paragraph (1), the total net income of a taxpayer for any taxable year is the taxpayer's adjusted gross income (taxable income, in the case of a corporation) determined without regard to gains from sales or exchanges of capital assets or of property used in a trade or business, other than the business of farming. For the purposes of the preceding sentence, adjusted gross income and taxable income shall be computed by recognizing the full amount (if any) by which the gains from sales or exchanges of property used in the business of farming (within the meaning of section 1231 (b)) which are treated as gains from sales or exchanges of capital assets exceed the losses from such sales or exchanges.

"(d) Exceptions for Deductions Attributable to Drought, Flood, and Other Casualties and to Certain Farming Operations.—

No deduction shall be disallowed under subsection (a) if such deduction is attributable—

"(1) to drought, flood, hail, or other abnormal weather conditions, disease, fire, storm, or other casualty or theft;